

# KV-X2551D/X2951D

## RM-816

## SERVICE MANUAL

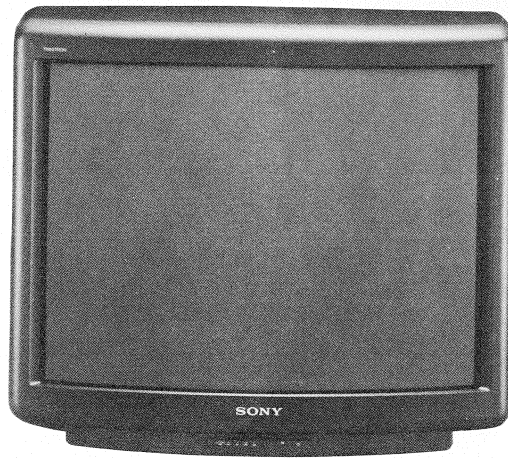
*AEP Model*

KV-X2551D

Chassis No. SCC-E18X-A

KV-X2951D

Chassis No. SCC-E18W-A



## AE-1C CHASSIS

### MODELS OF THE SAME SERIES

KV-X2551D/X2951D	KV-E2521D/E2921D
KV-C2551D/C2951D	KV-C2121D
KV-A2111D/A2511D	

### SPECIFICATIONS

#### 【KV-X2551D/X2951D】

Television system	B/G/H
Color system	PAL, SECAM, NTSC3.58, NTSC4.43
Stereo system	GERMAN stereo
Channel coverage	VHF: E2-E12 UHF: E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10
Picture tube	HI-Black Trinitron tube Approx. 63 cm (25 inches) (Approx. 59 cm picture measured diagonally) 110° degree deflection Approx. 72 cm (29 inches) (Approx. 68 cm picture measured diagonally) 110° degree deflection

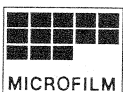
21-pin Euro connector	-Inputs for audio and video signals -Inputs for S-video -Outputs for video and audio signals (selectable)
Audio output (variable)	-phono jacks
Video input phono jack	
Audio inputs (L,R) phono jacks	
S-video Inputs-4pin DIN	
Headphone jack	stereo mini jack
Sound output	30 W + 30 W
Power consumption	104Wh (KV-X2551D) 114Wh (KV-X2951D)

#### Inputs Outputs Terminals

##### REAR

21 pin Euro connector (CENELEC standard)	-Inputs for audio and video signals -Inputs for RGB -Outputs of TV video and audio signals
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- Continued on next page -



TRINITRON® COLOR TV  
**SONY®**

Dimensions incl. speakers    Approx. 575×488×487 mm (w/h/d)  
    (KV-X2551D)  
    Approx. 656×560×518 mm (w/h/d)  
    (KV-X2951D)

Weight incl. speakers        Approx. 35kg (KV-X2551D)  
    Approx. 51kg (KV-X2951D)

【RM-816】

Remote control system      infrared control

Power requirements         3V dc  
    2 batteries IEC designation  
    R6 (size AA)

Dimensions                    Approx. 75×221×23mm(w/h/d)

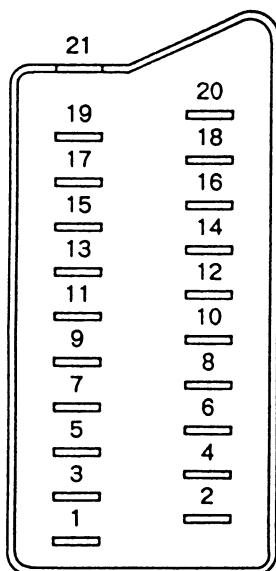
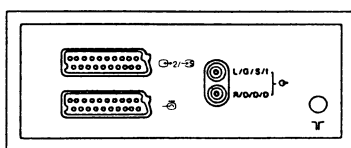
Weight                         Approx. 230g (including batters)

Accessories supplied        IEC designation R6 batteries (2)

Supplied accessories        RM-816 Remote Commander (1)  
    IEC designation R6 batteries (2)

Design and specifications are subject to change without notice.

21 pin connector (  ,  )



4 pin connector (  )

Pin No.	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB, 75ohms, positive Sync: 0.3V ± 3dB
4	C (S signal) input	0.3V ± 3dB, 75ohms, positive

Pin No.	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V): Part mode Low state (0 – 2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	–	Red input	0.7V ± 3dB, 75ohms, positive
	–	○	(S signal) chroma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
20	○	–	Video input	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
	–	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected

● unconnected (open)

\* at 20Hz – 20kHz


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### CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

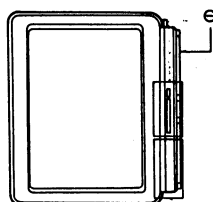
### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



# SECTION 1 GENERAL

## 1-1. SWITCHING ON/OFF




After you have completed the basic preparation your TV is ready to be connected to the mains power supply (220/240V AC, 50Hz).

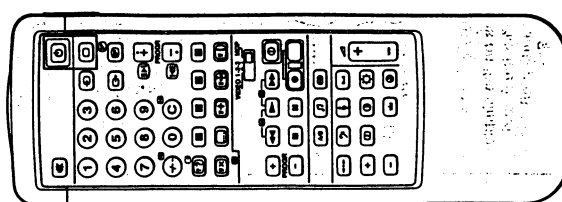


### How to turn the TV on

Action	Result
Press  on the TV.	The TV will turn on. Note: If the screen remains blank, the TV may be in the standby mode. Press  or any number button on the commander to switch it on.

### How to turn the TV off

A Temporarily	
Press  to enter standby mode.	The TV will be in standby. To return to the TV mode press  .
B Completely	
Press  on the TV.	The TV will turn off.












**Note:** These buttons should be used in preset mode only.

## 1-2. PRESETTING

After you have installed the TV you need to preset TV channels. TV stations broadcast their channels at certain frequencies. You must preset these channels to programme numbers on the TV before you can watch the TV, programmes.  
There are 60 spaces for storing these channels.  
Slide open the full function side of the remote commander to reveal preset buttons.

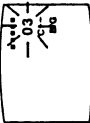

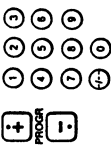
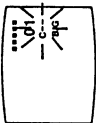
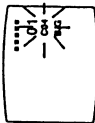


### How to preset channels automatically

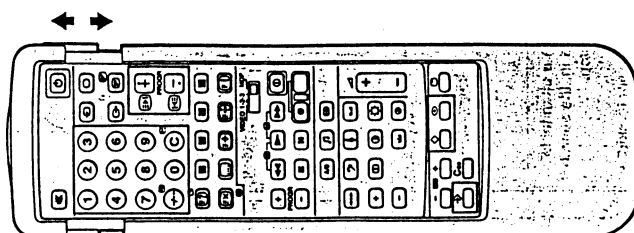
If you are unfamiliar with the channel numbers of the stations you wish to preset, use "How to preset channels automatically". If you are familiar with the channel numbers refer to "How to preset T.V. channels directly".

Action	Result
<b>1</b> Press  to enter the preset mode.	The programme number will start flashing.
<b>2</b> Press PROG + or - or the number buttons to select the programme number to which you want to preset a channel.  1 2 3 PROG + 4 5 6 - 7 8 9 0 Note To select a double-digit number, use the -/++ button. For example, if you want to choose 23, press -/++, 2, and then 3.	The programme number changes
<b>3</b> Press  + or - once to search forward or backward for channels.  + - 	When a channel is tuned in, the search will stop. Note If you want to skip a channel, press  + or  -.
<b>4</b> Press  if you want to store the channel which is tuned in. Press  to exit preset mode without storing.	The channel is now stored and you have returned to TV mode.
<b>5</b> Repeat steps 1 to 4 to store the other channels.	




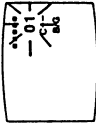





### How to preset channels directly

Action	Result
<b>1</b> Press $\rightarrow$ to enter the preset mode.	
<b>2</b> Press PROG +/- or the number buttons to select the programme number on which you want to preset a channel.  <b>Note</b> To select a double-digit number, use the +/- button. For example, if you want to choose 23, press +/-, 2, and then 3.	 
<b>3</b> Press C.	
<b>4</b> Select the channel number with two digits (e.g. 04) by pressing the number buttons.  <b>Note</b> Press the second number within 5 seconds after the first one, otherwise the operation will be cancelled.	 
<b>5</b> Press $\diamond$ to store the channel which is tuned in. Press $\rightarrow$ to exit the preset mode without storing.  Repeat steps 1 to 5 to store the other channels.	



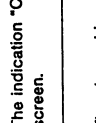
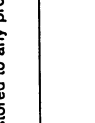
### How to Name a Station

You can use up to five characters to "name" a channel or station (i.e. BBC1).

Action	Result
<b>1</b> Select a programme number you want to name by pressing the PROG +/- or the number buttons	
<b>2</b> Press $\rightarrow$ .	
<b>3</b> Press C.	
<b>4</b> Press + or - to select a letter in the alphabet, a number, or a blank space.	 
<b>5</b> Press C.	
<b>6</b> Repeat steps 4 and 5 to set each letter.	
<b>7</b> Press $\diamond$ .	

### How to tune in a channel temporarily

You can tune in a channel temporarily, if it has not been preset.

Action	Result
<b>1</b> Press C.	
<b>2</b> Select the channel number with two digits by pressing the number buttons (e.g. for channel 4, first press 0, then 4.)	

# 1-3. BASIC TV OPERATION

This section introduces you to the basic control functions which are available on the simple side of the remote commander.

## How to Select Programmes

Before you can select programmes make sure that you have preset channels.

Action	Result
Press PROG + or - or the number buttons. To select a double-digit number, use the - / - button. For example, if you want to choose 23, press - / -, 2, and then 3.	The selected programme is displayed.

## How to Adjust the Volume

Action	Result
Press $\Delta$ + or -.	The volume markers will appear, and are adjusted accordingly.

## How to Use additional features

Basic teletext operation  
Select

The button to view the teletext.

The button to request subtitles (P 888).

One of the coloured buttons for fastext operation.

The button to return to TV mode.

For details about teletext operation.

## How to operate with the buttons on the TV

You can also select programmes and adjust the volume using the P  $\Delta$   $\nabla$  and  $\leftrightarrow$  buttons on the front of the TV.

For operation, first press the P  $\Delta$   $\nabla$  button repeatedly so that the P (for programme) or  $\Delta$  (for volume) indication appears on the screen, and then adjust with the  $\leftrightarrow$  + or - buttons.

**Note:** To restore to factory set level press  $\rightarrow$   $\leftrightarrow$  + or - together.

## How to view the video input picture

Press  $\nabla$  To return to the TV mode, press  $\nabla$ . For further details.

## How to Skip Programmes

Using the PROG + or - buttons you can skip unused programme channel numbers. However, the skipped numbers may still be called up using the number buttons.

Action	Result
<b>1</b> Press $\nabla$ to enter the preset mode.	The programme number will start flashing.
<b>2</b> Select the programme number that you want to skip by pressing PROG + or - or the number buttons.	The programme number changes.
<b>3</b> Press Coo.	The lowest channel number appears under the programme number.
<b>4</b> Press $\nabla$ .	The channel is now stored and you have returned to TV mode.
Repeat steps 1 to 4 to skip other programme numbers.	

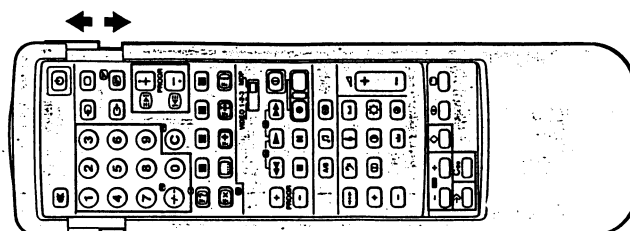
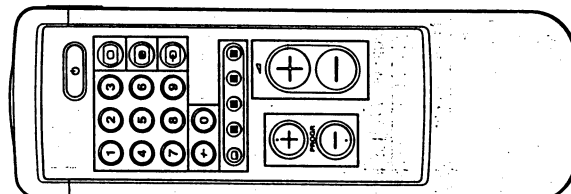
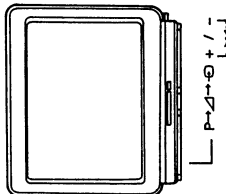
## How to Fine Tune Manually

If the picture is distorted, you can fine tune the channel manually.

Action	Result
Press $\leftrightarrow$ + or - repeatedly until the picture looks normal.	The indication $\leftrightarrow$ F $\rightarrow$ appears on the screen.
Press $\nabla$ to enter the preset mode.	The programme number starts flashing.
Press $\nabla$ .	The fine tuning is stored.

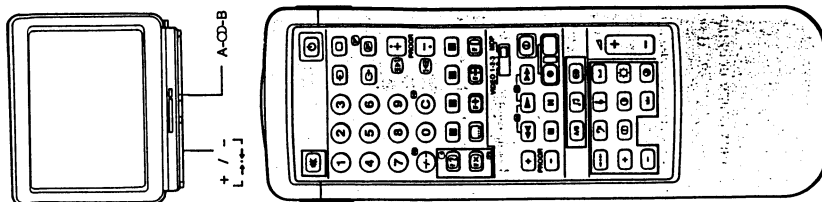
**Note:** Normal tuning can be restored if you preset the channel once more.

**Note:** Press  $\nabla$  on door to open.



# 1-4. ADVANCED TV OPERATION

This section shows you how to use convenient features and how to adjust the picture and sound to your taste.  
Use the full-function side of the Remote Commander.















## How to use on-screen display and special sound features

You can enjoy the following convenient features.

How to	Action	To resume normal picture/sound
Display on-screen indications	Press <b>[C]</b>	Indications disappear after some seconds
Display programme numbers	Press <b>[C]</b> twice	Press <b>[C]</b> twice again.
Mute the sound	Press <b>[M]</b>	Press <b>[M]</b> again.
Select a language in bilingual programmes.	Press <b>[A/B]</b> . The selected mode of the A-D-B indicator on the TV lights up.	Press <b>[A/B]</b> .
Set the sound for music listening.	Press <b>[J]</b>	Press <b>[J]</b> again.
Use the space sound (special acoustic effect)	Press <b>[S]</b>	Press <b>[S]</b> again.
Request the time	Press <b>[@]</b>	Press <b>[@]</b> again.

## How to adjust the picture and sound

Although the picture and sound have been adjusted at the factory, you might want to adjust them to your own taste. To do this, please follow the steps below.

To Adjust:	Press:	Then:	Result: (+ ↔ -)
Picture:			
Colour Intensity		<div></div>	More ↔ Less
Picture Contrast			More ↔ Less
Brightness			Bright ↔ Dark
Hue (for NTSC only)			Reddish ↔ Greenish
Picture Sharpness (only for 29 INCH)			Sharp ↔ Soft
Sound:			
Bass		<div></div>	More ↔ Less
Treble			More ↔ Less
Balance			More Right ↔ More Left

To reset the picture and sound to factory set levels press **[RST]**.

On the set:

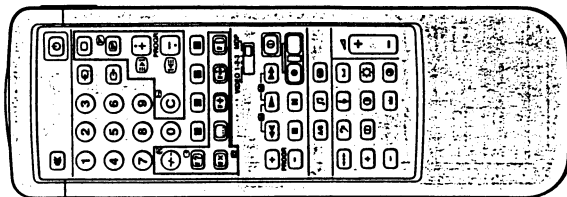
Press **[+]** **[+/-]** buttons simultaneously.





## 1-5. TELETEXT OPERATION

TV stations broadcast teletext programmes via the TV channels. To receive teletext programmes, use the buttons indicated in green on the full side of the Remote Commander.

With the simple side of the Remote Commander, only the basic operation is possible.

### How to View the Teletext




















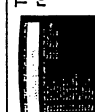

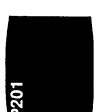






Action	Result
<b>1</b> Select the channel which carries the teletext service you wish to see.	The channel changes on the screen.
<b>2</b> Press  .	 If the teletext signal is not broadcast, then <b>P100</b> is displayed.
<b>3</b> Input three digits for the page number using the number buttons. <b>Note</b> If you make a mistake, type in any three digits, then re-enter the correct page number.	The numbers are entered on the screen. The requested page will appear in a few seconds.
To return to the TV mode. Press  To change the teletext channels First press  to return to the TV mode, then repeat steps 1 to 3.	

#### Note

If the signal of the TV channel is weak, teletext errors may often occur.

### How to Use the Advanced Features of Teletext

How to	Action	Result (On-screen display)
Request the index page.	Press  (INDEX).	 The index page appears.
Request the subtitle page (p888).	Press  .	The subtitle page is displayed (p888).
Access the next or preceding page.	Press  (PAGE +) or  (PAGE -).	 The next or preceding page appears.

How to	Action	Result
Superimpose the teletext display on the TV programme.	Press  once if you are in text mode, or press  twice if in TV mode. To return to the normal teletext display press  again.	 The teletext displays are superimposed on the TV programmes.
Prevent a teletext page from being updated or changed.	Press  (HOLD). To resume normal teletext reception, press  (TEXT/MIX).	 The HOLD symbol (  ) appears on the screen and the chosen sub-page is held until you cancel.
Enlarge the teletext display.	Press  once to enlarge the upper half. Press twice to enlarge the lower half. Press again to restore the normal display.	 The upper half is enlarged.
Reveal concealed information (e.g. answers to a quiz).	Press  (REVEAL). Press again to conceal the information.	 The information is revealed.
Watch the TV programme while waiting for a requested page to be displayed.	1. Request a new page. 2. Press  (TEXT CL).	The numbers are entered. The TV programme is displayed, and the requested page number and other teletext data appear at the top of the screen.
	3. When the requested page has been captured, the page number remains and the other data disappears.	
	4. Press  to view this page.	The requested page is displayed.
Have a requested page displayed at a pre-determined time.	1. Request a desired page. 2. Press  (TP ON).	The requested page is displayed. "T-----" appears at the bottom of the screen.
	3. Enter the time you want to have the page displayed with four digits using the number buttons. (For example, enter 0730 for 7:30 AM.)	The time is entered on the screen.
	4. Press  (TEXT CL) to watch the TV programme until the requested time.	At the requested time, the page number will be displayed at the top of the screen, to view this page, press  .
	To cancel the request* Display the teletext page, then press  (TP OFF).	The request is cancelled. To resume TV mode press  .

Some of the features may not be available depending on the Teletext service.

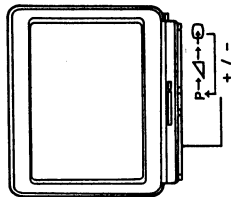
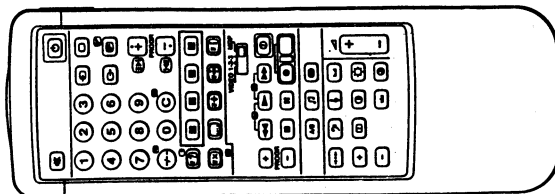
# 1-6. OPTIONAL CONNECTIONS / OPERATIONS

## How to use the FASTEXT Feature

FASTEXT feature allows you to access pages quickly with one key operation. When a FASTEXT page is broadcast, a colour coded menu appears at the bottom of the screen. Each coloured prompt corresponds to the coloured buttons on either side of your Remote Commander.

Operation	Result
Action Press one of the coloured buttons which correspond to the coloured prompt on the teletext.	The selected teletext page appears.

**Note**  
Correct FASTEXT operation depends on the necessary signals sent from the TV station.



## How to view the video input picture

You can view the picture of video equipment connected to the input terminals by selecting the input mode.

Operation	Result
Action Press <b>⏮</b> repeatedly to select the desired input.	Symbol for the selected input appears. (See the table below.)
To return to the TV mode, press the <b>⏪</b> button.	

## Input modes

Result
<b>⏮1</b> Audio/video input through the <b>⏮</b> connector.
<b>⏮2</b> RGB input through the <b>⏮</b> connector.
<b>⏮2</b> Audio/video input through the <b>⏮2/⏮</b> connector.
<b>⏮2</b> S video input (from a VTR equipped with an S video output) through the <b>⏮2/⏮</b> connector.
<b>⏮3</b> Audio/video input through <b>⏮</b> and <b>⏮</b> jacks on the front.
<b>⏮3</b> S video input through the <b>⏮</b> connector on the front (4-pin connector)
You can also select the input mode using the <b>P</b> <b>→</b> <b>↔</b> <b>→</b> <b>⏮</b> button on the TV. In this case, first select <b>⏮</b> and then press <b>+/-</b> buttons to select the input.

## How to select the Output

The **⏮2/⏮** connector outputs four kinds of audio/video signals. You have to select one of them as follows.

Operation	Result
Action Press <b>⏮</b> repeatedly to select the desired input.	Symbol for the selected output appears. (See the table below.)

## Output modes

Symbol	Output from
<b>1</b> <b>⏮</b>	The audio/video signal from the <b>⏮1</b> connector.
<b>2</b> <b>⏮</b>	The audio/video signal from the <b>⏮2/⏮</b> connector.
<b>3</b> <b>⏮</b>	The audio/video signal from the <b>⏮</b> and <b>⏮</b> connectors.
<b>TV</b> <b>⏮</b>	The audio/video signal from the <b>T</b> aerial terminal.

## 1-7. ADDITIONAL REMOTE COMMANDER OPERATION

### How to Control Other Sony Video Equipment

By switching the VIDEO 1/2/3, MDP selector, you can operate most Sony video equipment (Beta VTR, 8mm VTR, VHS VTR, and video disc player).

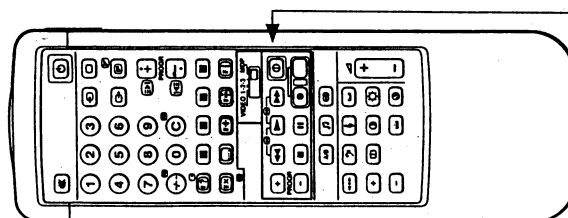
- 1** Set VIDEO 1/2/3, MDP selector according to the desired video equipment.  
VIDEO 1: Beta or ED Beta VTR  
VIDEO 2: 8mm VTR  
VIDEO 3: VHS VTR  
MDP: Video disc player

- 2** Use the buttons in the indicated area to operate video equipment.

**Note**  
When you use ● button, be sure to press this button and the one on the right simultaneously.

#### Notes

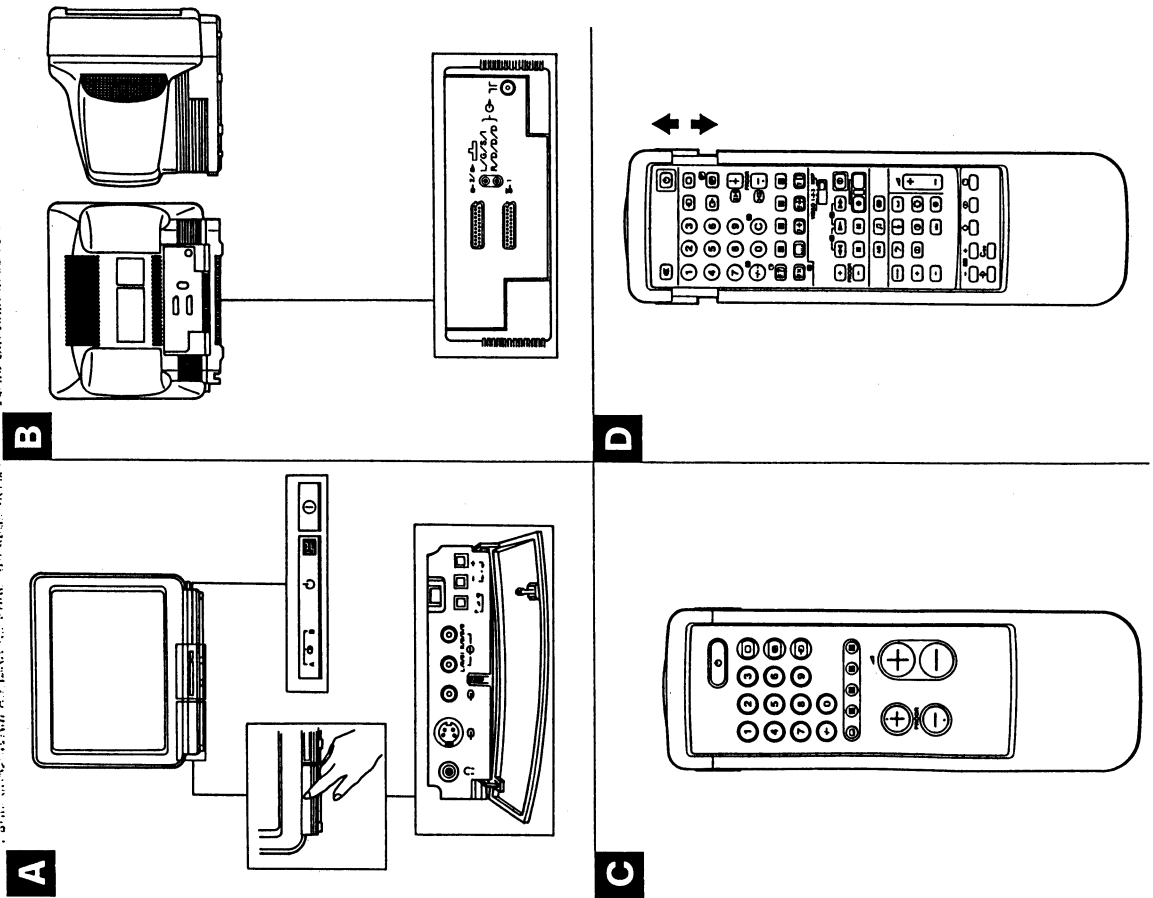
- If your video equipment is furnished with COMMAND MODE selector, set the selector to the same position as the VIDEO 1/2/3, MDP selector on the supplied Remote Commander.
- If the equipment does not have a certain function, the corresponding button on the Remote Commander will not work.



Buttons to operate other Sony Video equipment

## 1-8. ADDITIONAL INFORMATION

### Parts Identification



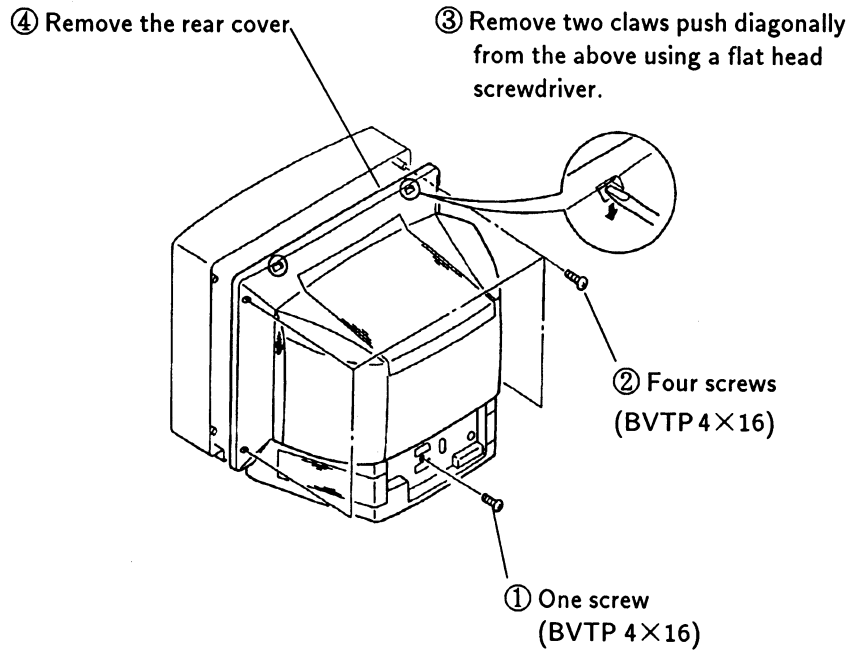
This section briefly describes the buttons and controls on the TV set and on the Remote Commander.  
For more information.

A TV set – Front	
Sign	Name
	Main power switch
	Standby indicator
	NICAM indicators
	Headphones jack (stereo minijack)
	Input jacks (S-video /video/audio)
	Function selector (Programme/volume/input)
	Adjustment buttons for function selector
B TV set – Rear	
Sign	Name
	21-pin Euro-AV connector (S-video/video input, TV/video output)
	21-pin Euro-AV connector (RGB/video input, TV output)
	Audio output jacks (phono jacks)
	Aerial terminal (IEC type)
C Remote Commander – simple side	
Sign	Name
	Input mode selector
	Teletext button
	Fastext buttons
	TV mode selector
	Standby button
	Number buttons 1,2,3,4,5, 6,7,8,9, and 0
	Double-digit entering button
	Volume control buttons
	Programme selector

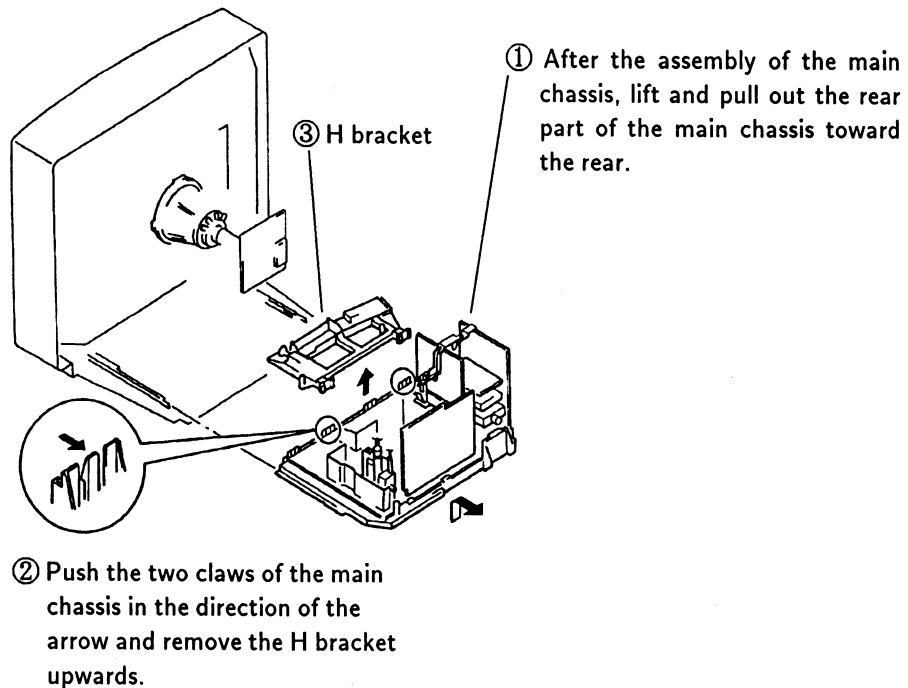
D Remote Commander – full function side	
Sign	Name
	Mute on/off button
	Standby button
	Number buttons 1,2,3,4,5, 6,7,8,9, and 0
	Input mode selector
	TV power on/TV mode selector button
	Output mode selector
	Teletext button
	Music button
	Selector for NICAM
	Double-digit entering button
	Direct channel entering button
	Space sound button
	Request time display
	Teletext operation buttons
	Fastext buttons
	On-screen display button
	Picture and sound adjustment reset button
	Volume control
	Programme selector
	Picture and sound controls
	Video equipment selector
	Video equipment operation buttons
	Programme number clear button
	Channel preset button
	Tuning buttons
	Channel store button
	Station label button

## SECTION 2 DISASSEMBLY

### 2-1. REAR COVER REMOVAL

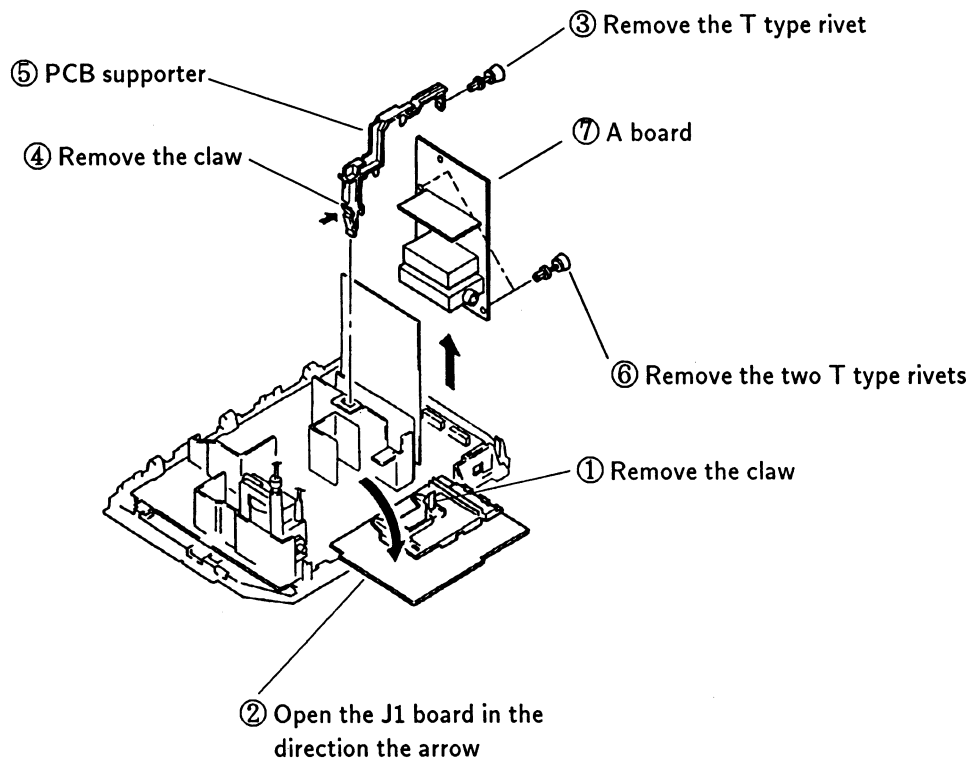


### 2-2. CHASSIS ASSEMBLY REMOVAL

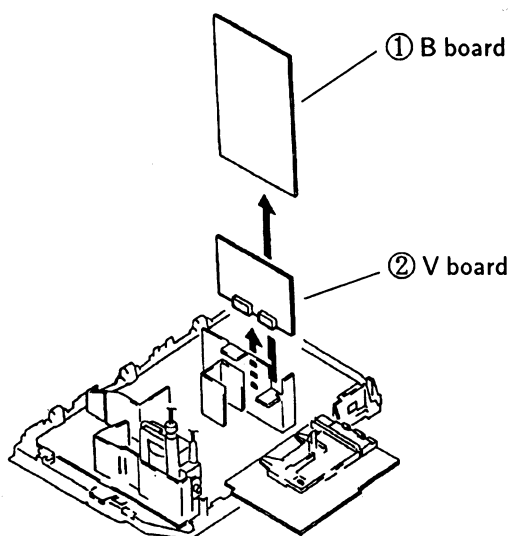




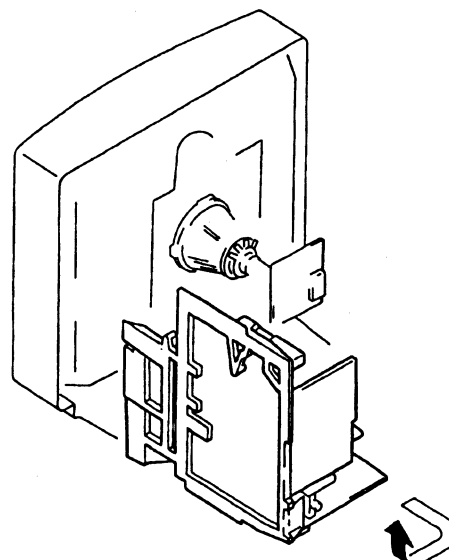
### 2-3. A AND J1 BOARDS REMOVAL



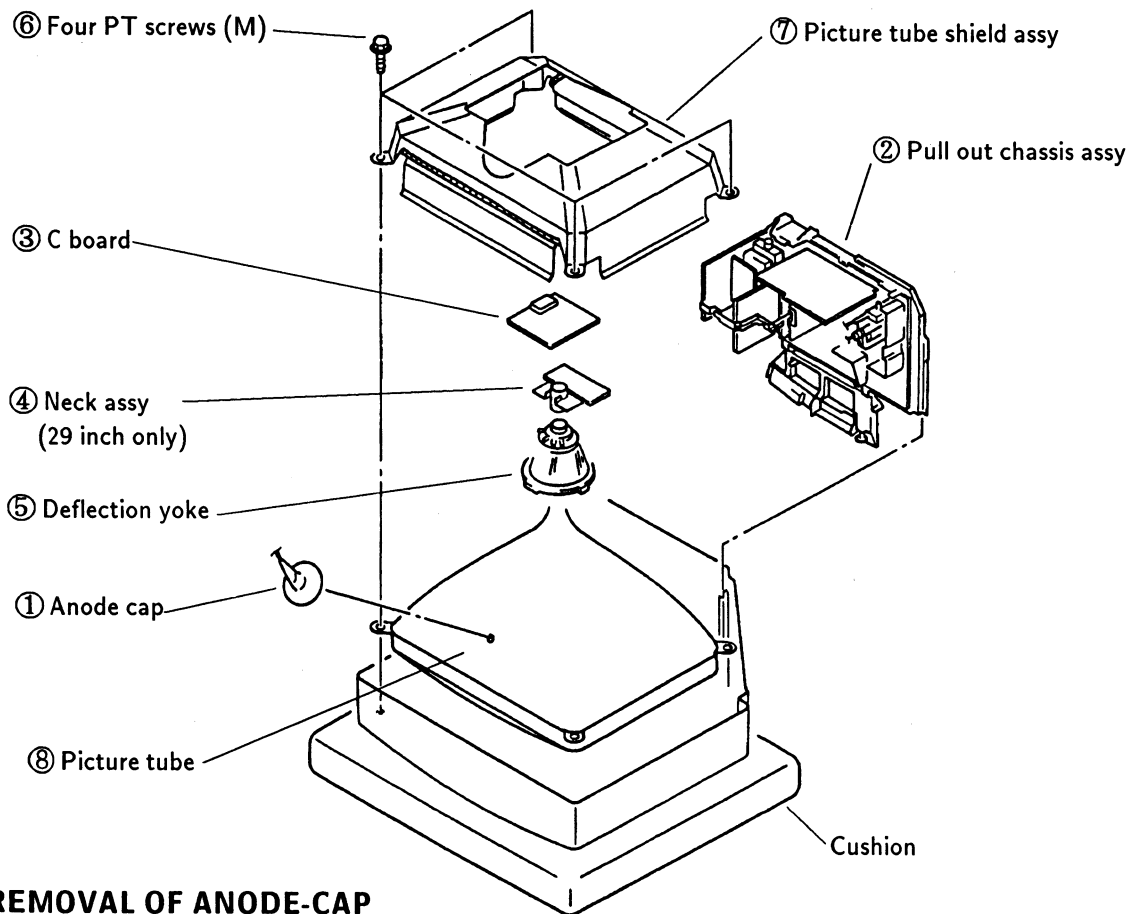
### 2-4. B AND V BOARDS REMOVAL



### 2-5. SERVICE POSITION



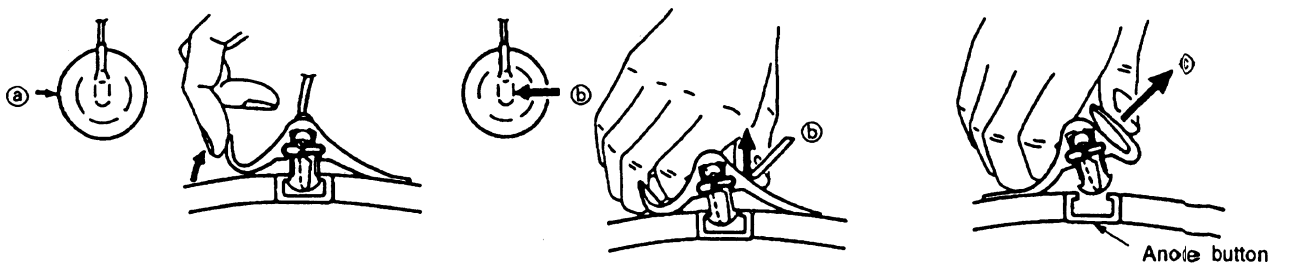
## 2-6. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

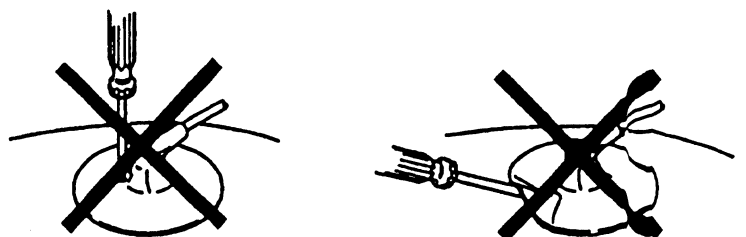
### • REMOVING PROCEDURES



- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①.
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②.
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :
  - Contrast .....80%  
(or remote control normal)
  - ⚙ Brightness .....50%

- Carry out the following adjustments in this order:

1. Beam landing
2. Convergence
3. Focus
4. White balance

**Note :** Testing equipment required

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

#### Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

#### 3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
  - Contrast } normal
  - Brightness }
2. Position neck ass'y as shown in Fig 3-2.  
(29 inch only)
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.  
(See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.  
(See Figure 3-4.)

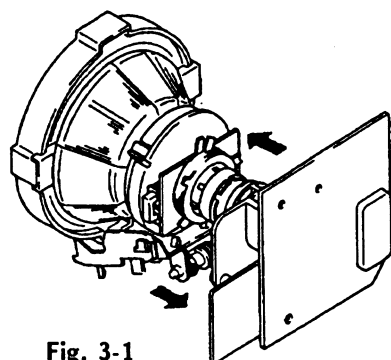


Fig. 3-1

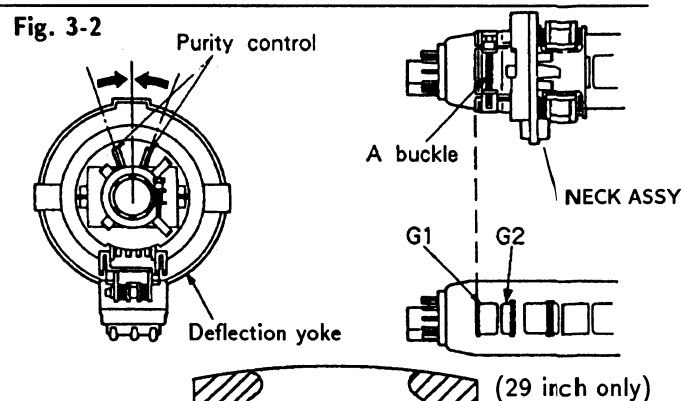


Fig. 3-2

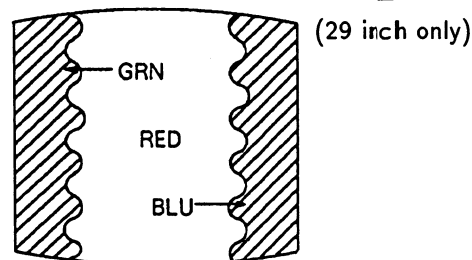


Fig. 3-3

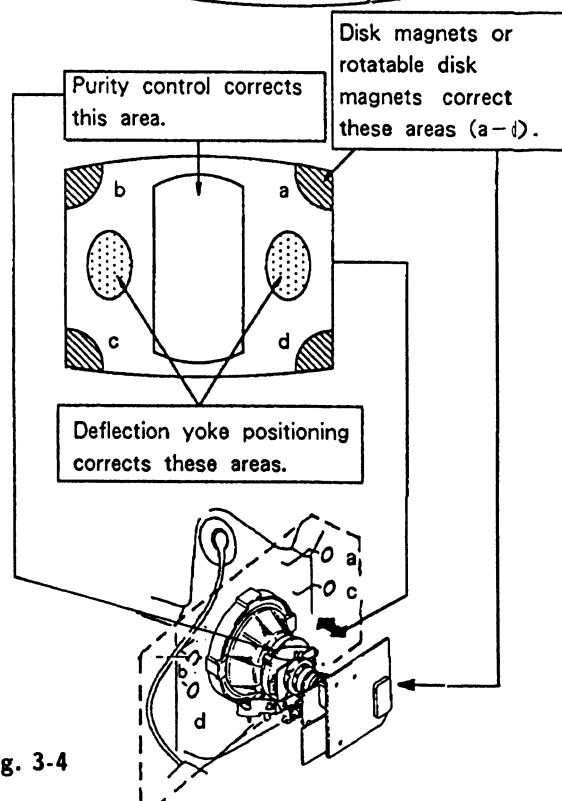


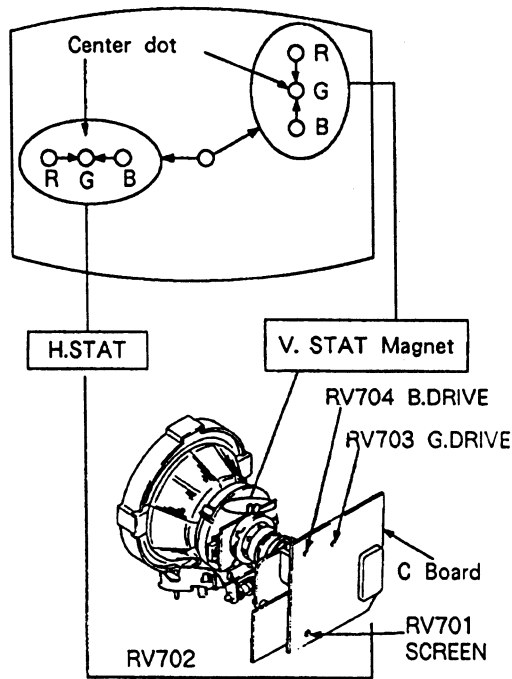
Fig. 3-4

### 3-2. CONVERGENCE

#### Preparations :

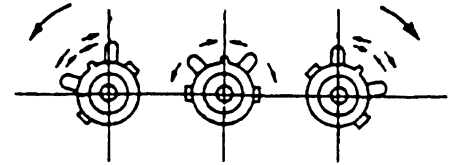
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

#### (1) Horizontal and vertical static convergence

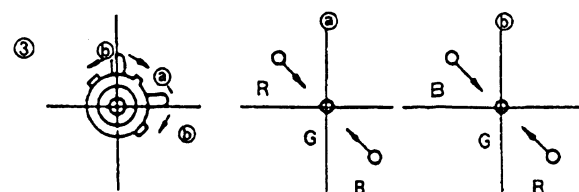
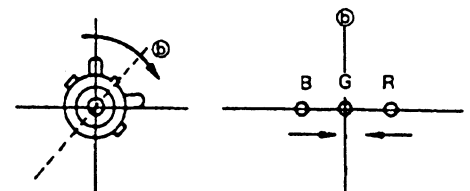
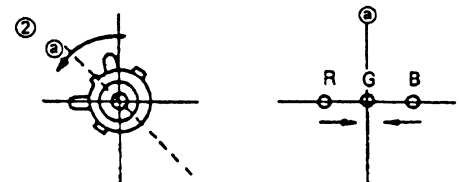
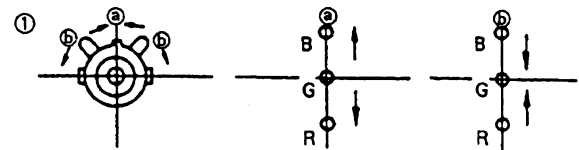


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below. (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

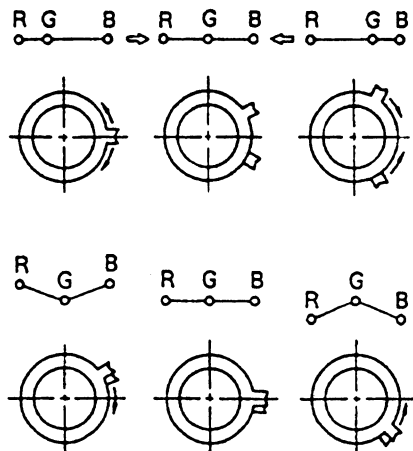
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



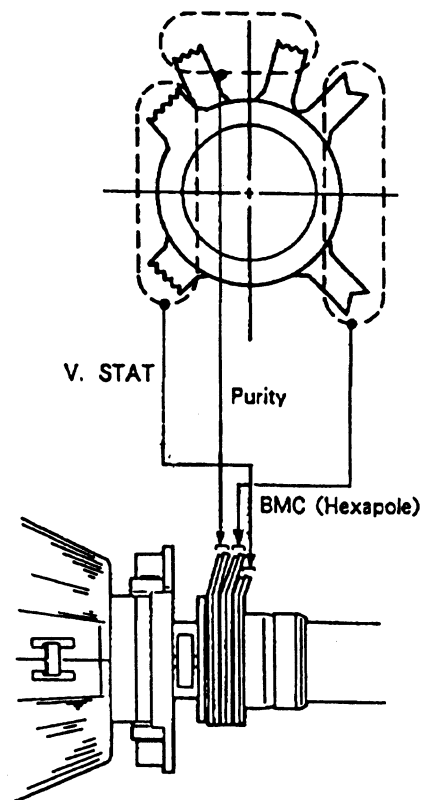
4. If the V.STAT magnet is moved in the direction of the ① and ② arrows, the red, green, and blue points move as shown below.



● Operation of BMC (Hexapole) Magnet



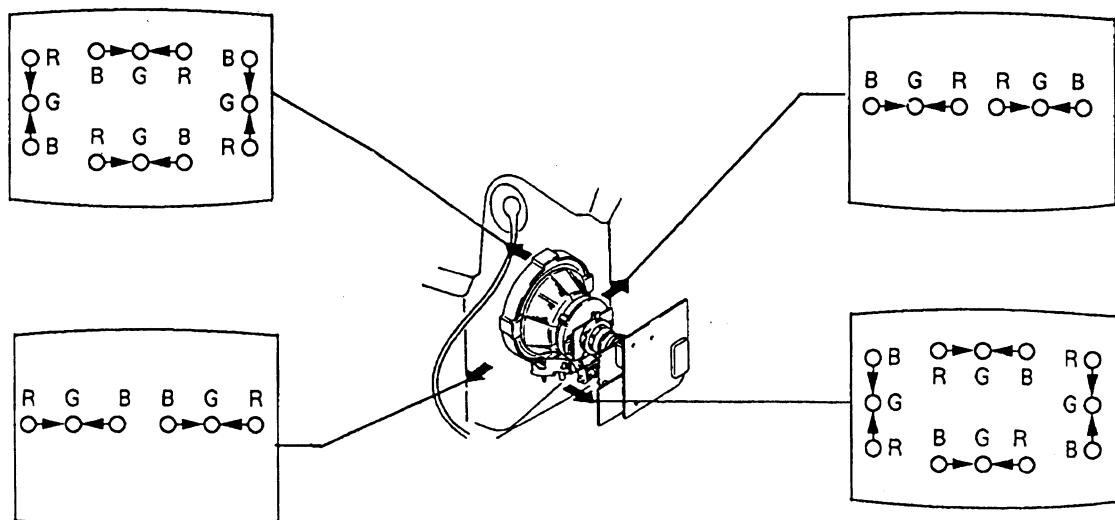
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.  
Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).



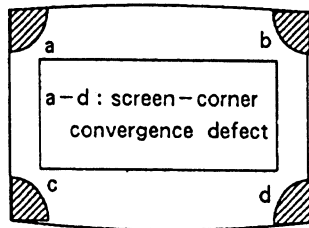
**(2) Dynamic convergence adjustment**

**Preparations :**

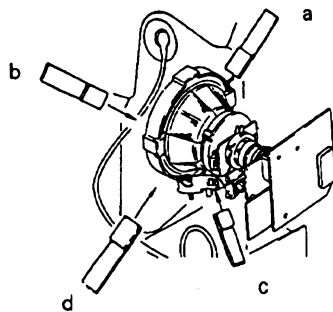
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
1. Slightly loosen the deflection yoke screws.
  2. Remove the deflection yoke spacer.
  3. Move the deflection yoke as shown in the figure below and optimize the convergence.
  4. Tighten the deflection yoke screws.
  5. Install the defelection yoke spacer.



### (3) Screen corner convergence



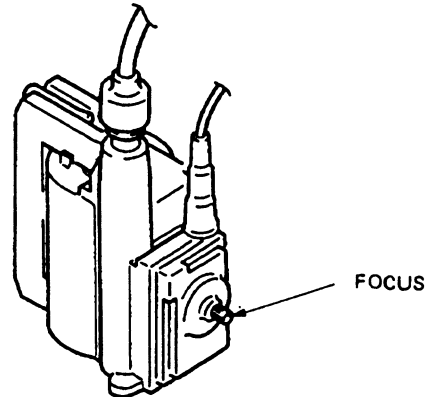
Install the permalloy assembly for the section with faulty.



Permalloy

### 3-3. FOCUS

Adjust the focus to optimize the screen.



### 3-4. WHITE BALANCE

#### [ Screen G2 setting ]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

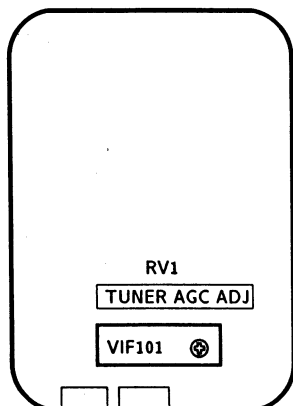
#### [ White balance adjustment ]

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. A BOARD ADJUSTMENTS

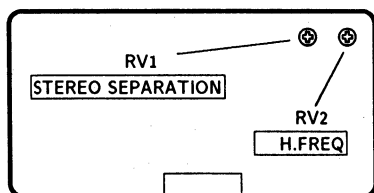


A BOARD (COMPONENT SIDE)

#### **TUNER AGC ADJUSTMENT (VIF101, RV1)**

1. Align with an appropriate signal between stations.
2. Adjust RV1 so that snow noise and cross modulation just disappear from the picture.

### IFG5.5S SIF



IFG5.5S SIF -component side-

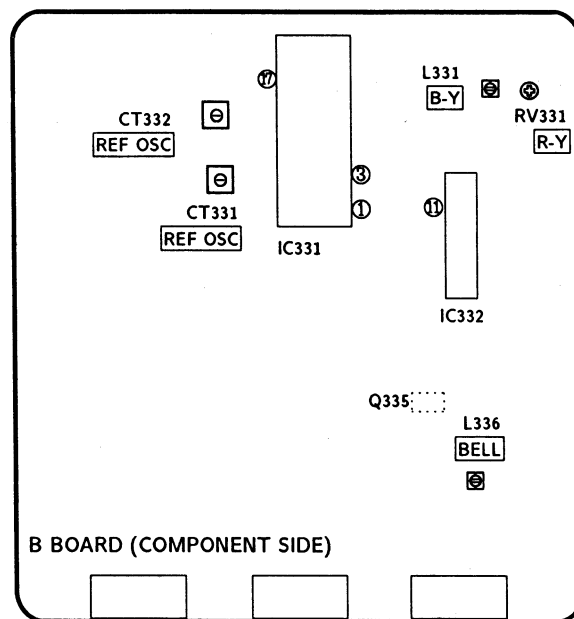
#### **STEREO SEPARATION ADJUSTMENT (RV1)**

1. Input stereo signals. (L-CH 400Hz, R-CH 1KHz)
2. Check the stereo indicator.
3. Connect an oscilloscope to pin⑧ (CH1) of CN1 through a band pass filter of 1KHz
4. Adjust RV1 so that 1KHz voltage goes down to the minimum.

#### **H FREQ (RV2)**

1. Input a PAL COLOR BAR signal, then connect a jumper between pin⑫ IC4 and GND.
2. Connect a frequency counter to pin④ IFG5.5S (HP) of CN1 through a probe of 10 : 1.
3. Adjust RV2 (H.FREQ)  $15.625 \pm 50\text{Hz}$ .
4. After adjustment, remove the jumper.

### 4-2. B BOARD ADJUSTMENTS



B BOARD (COMPONENT SIDE)

#### **REFERENCE OSCILLATOR ADJUSTMENT (CT332 8.8MHz)**

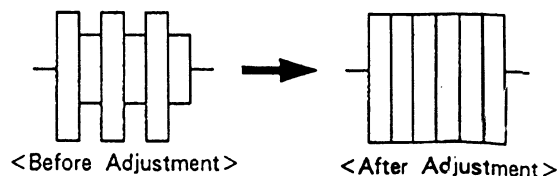
1. Input a PAL color bar signal.
2. Ground pin ⑪ of the IC331.
3. Adjust CT332 to obtain synchronization.

#### **REFERENCE OSCILLATOR ADJUSTMENT (CT331 7.16MHz)**

1. Input an NTSC color bar signal.
2. Ground pin ⑪ of IC331.
3. Adjust the CT331 to obtain synchronization.
4. Remove the jumper grounding pin ⑪ of IC331.

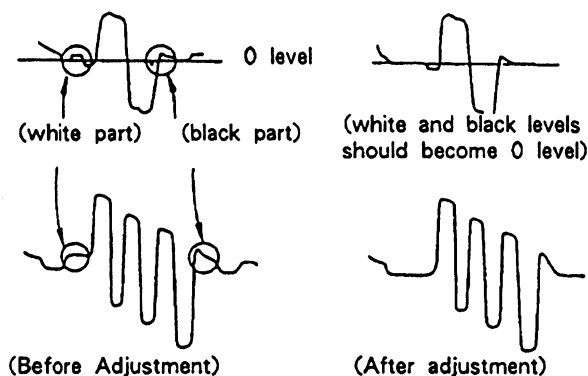
#### **BELL FILTER ADJUSTMENT (L336)**

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q335.
3. Adjust L336 so that the waveform is flat.

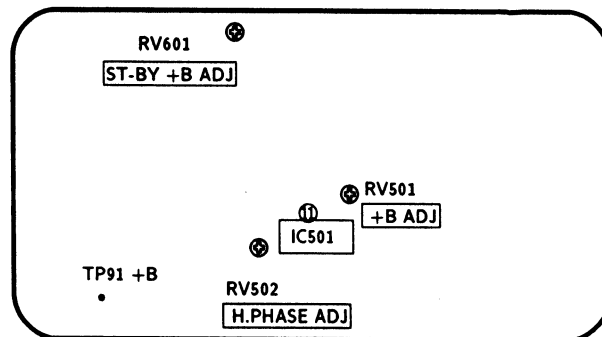


### DISCRIMINATION ADJUSTMENTS (RV331 and L331)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC331.
3. Adjust RV331 until the white and black sections of the waveform at pin ① are at the 0 level.  
Connect the oscilloscope to pin ③ of IC331.
4. Adjust L331 until the white and black sections of the waveform at pin ③ are at the 0 level.
5. the waveform at pin ③ are at the 0 level.



### 4-3. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

#### +B ADJUSTMENT (RV501)

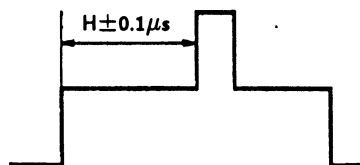
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain  $135 \pm 0.2V$ .

#### ST-BY +B ADJUSTMENT (RV601)

1. Put the system into  $\text{⏻}$  standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain  $135 \pm 3V$ .
4. Take the system out of  $\text{⏻}$  standby mode (remote commander).

#### H.PHASE ADJUSTMENT (RV502)

1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to  $H \pm 0.1\mu s$ .

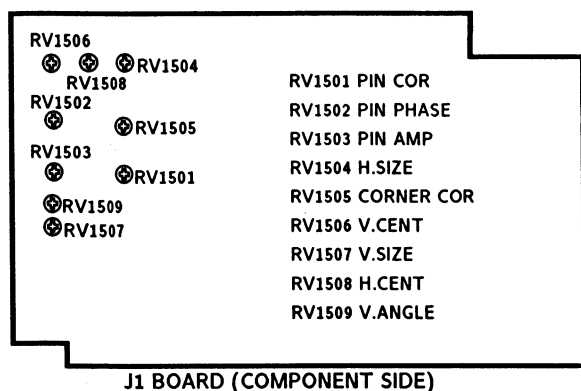


Standard of H. PHASE

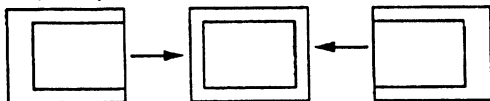
Model Size	H
25 "	$5.1\mu s$
29 "	$5.5\mu s$



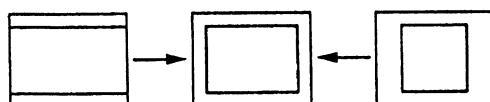
#### 4-4. J1 BOARD ADJUSTMENTS



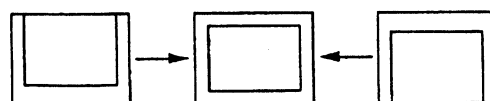
RV1508  
H. CENT (HORIZONTAL CENTER)



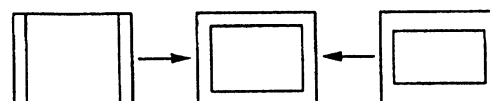
RV1504  
H. SIZE (HORIZONTAL SIZE)



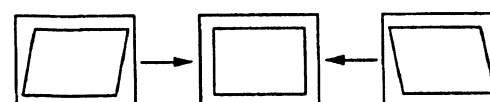
RV1506  
V. CENT (VERTICAL CENTER)



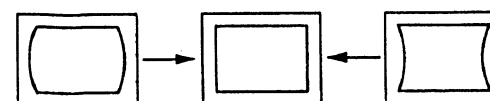
RV1507  
V. SIZE (VERTICAL SIZE)



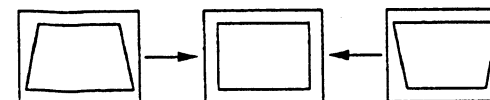
RV1509  
V. ANGLE (VERTICAL ANGLE)



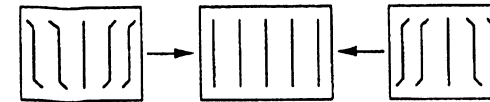
RV1503  
PIN AMP (PINCUSHION AMPLIFIER)



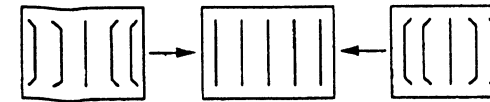
RV1502  
PIN PHASE (PINCUSHION PHASE)



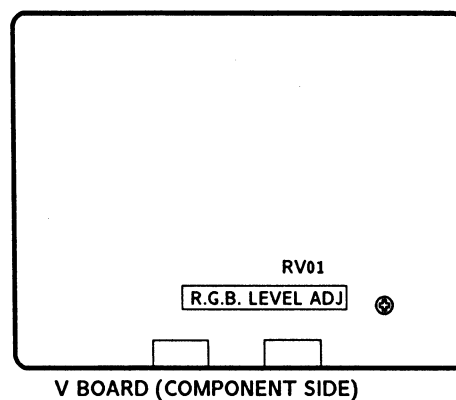
RV1501  
PIN. COR (PINCUSHION CORRECT)



RV1505  
CORNER COR (CORNER CORRECT)



#### 4-5. V BOARD ADJUSTMENT



##### RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.

## 4-6. SECONDARY ADJUSTMENTS

### SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the  $\text{CONTRAST}$  setting.
6. Adjust the  $\text{BRIGHTNESS}$  control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the  $\diamond$  (store) button of the remote commander.

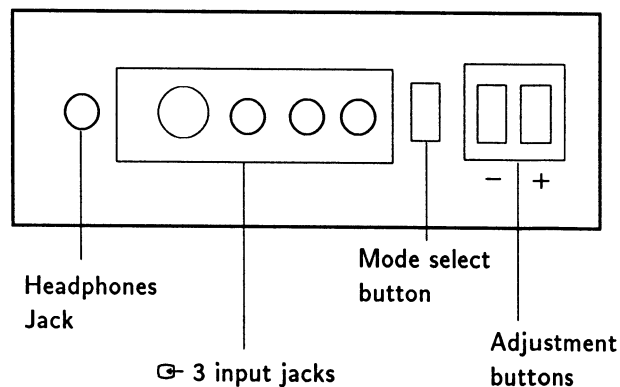
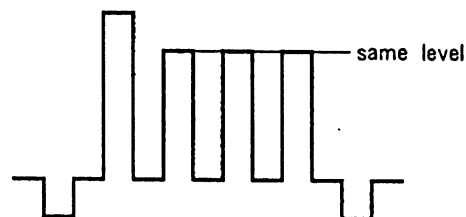
(SUB mode is released)

If there is no test color pattern

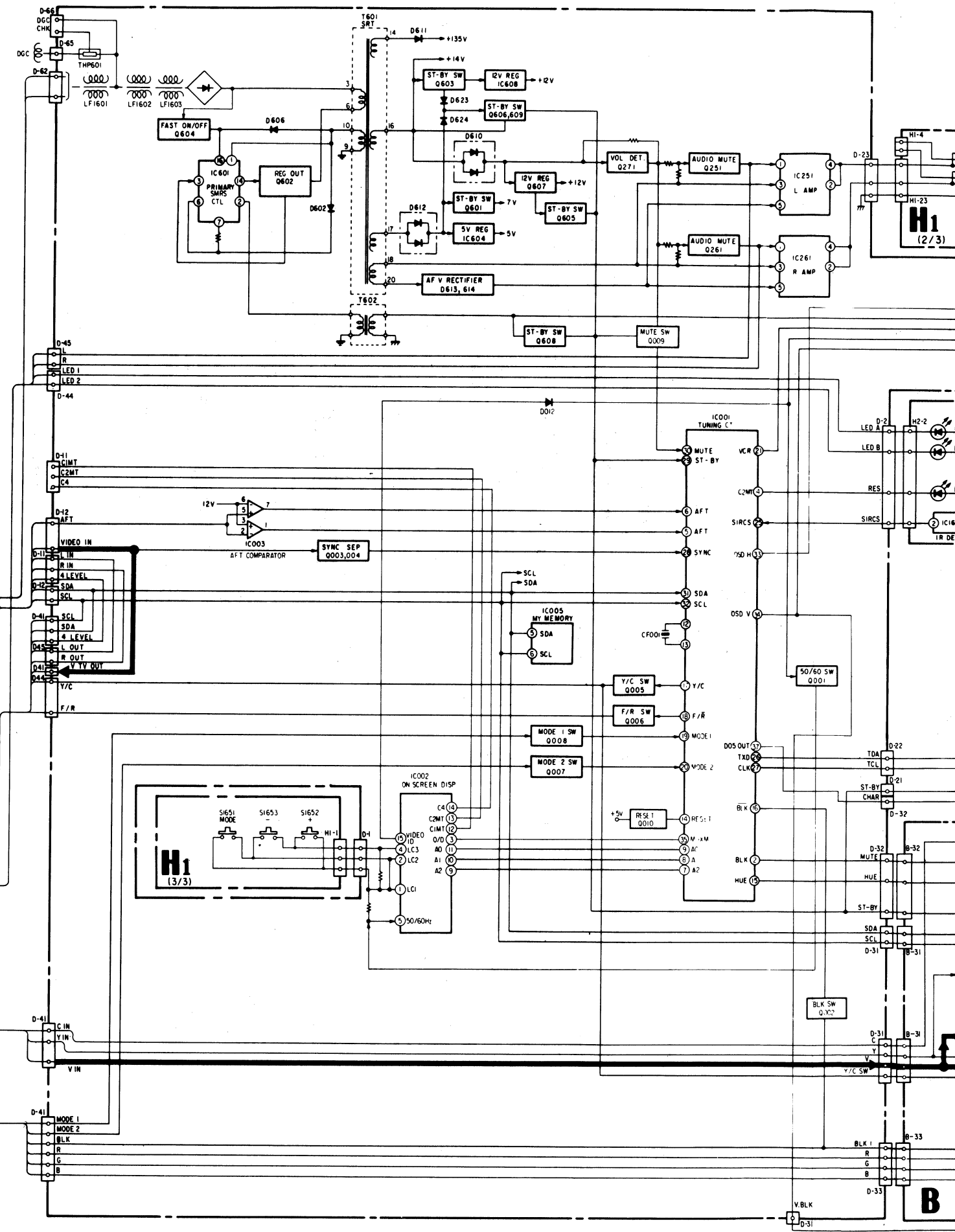
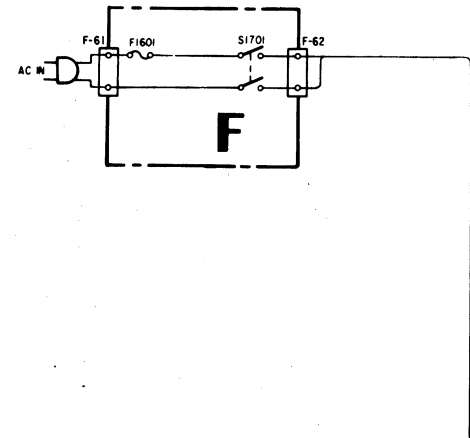
1. Set the system to receive a color pattern.
2. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.  
Set the  $\text{COLOR}$  to its normal state.
- 3-5. Steps are the same as above.
6. Since 20 IRE is nearly blue, adjust the  $\text{BRIGHTNESS}$  control so that the blue barely glows.
7. Same as step 7 above.
8. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.

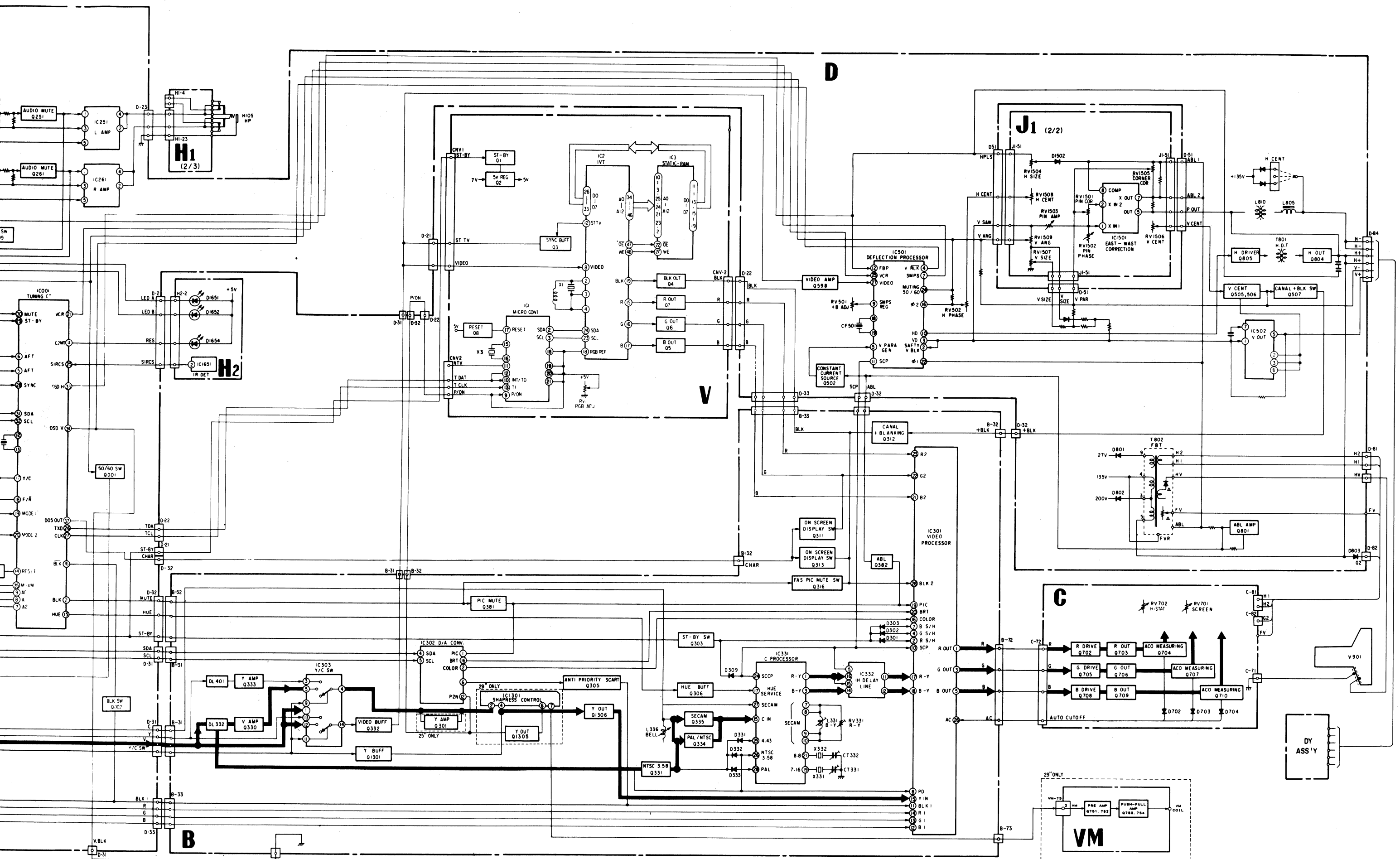
### SUB COLOR ADJUSTMENT

1. Set the system to receive color bars.
2. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and - simultaneously, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the  $\diamond$  (store) button of the remote commander. (SUB mode is released)



### 5-1. BLOCK DIAGRAM





H1

CONTROL SW,  
AV INPUT,  
HEADPHONE

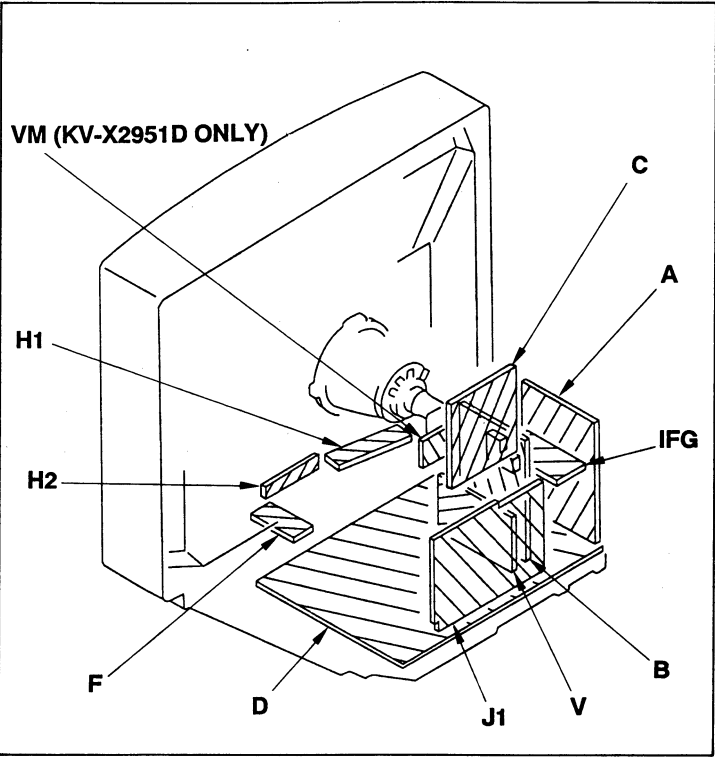
H2

SIRCS RECEIVER,  
INDICATOR

F

[AC IN POWER SW]

5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS - Conductor Side -

- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytic and tantalums.
  - All resistors are in ohms.  $\text{k}\Omega = 1000\Omega$ ,  $\text{M}\Omega = 1000\text{K}\Omega$
  - Indication of resistance, which does not have one for rating electrical power, is as follows.
- Pitch: 5 mm  
Rating electrical power  $\frac{1}{4}$  W
- : nonflammable resistor.
  - : internal component.
  - : panel designation, or adjustment for repair.
  - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
  - : earth-ground.
  - : earth-chassis.
  - : no mounted.

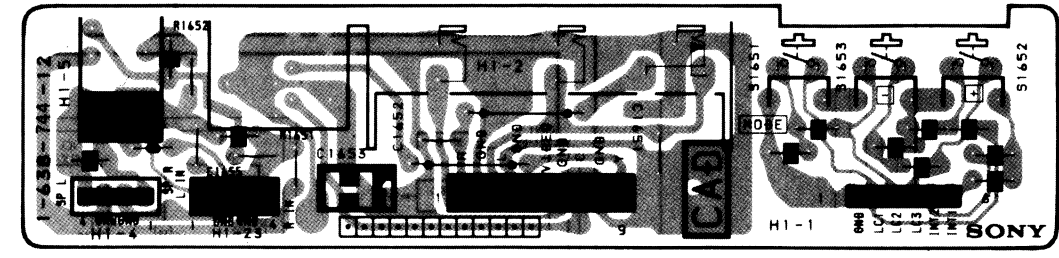
**Reference information**

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	:	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a color-bar signal input.
- Readings are taken with a  $10\text{M}\Omega$  digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

**Note:** The components identified by shading and mark are critical for safety. Replace only with part number specified.

- H1 Board -

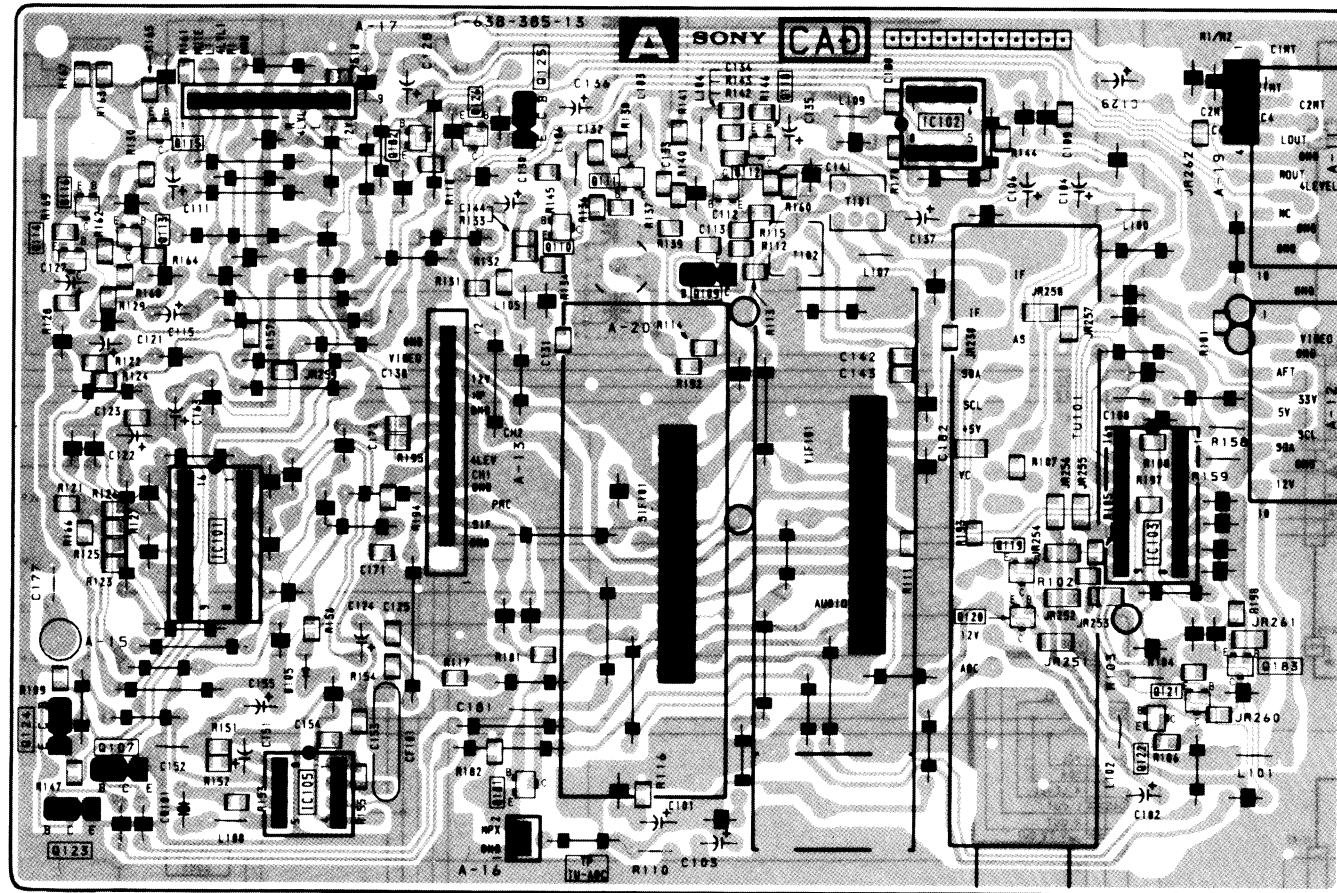




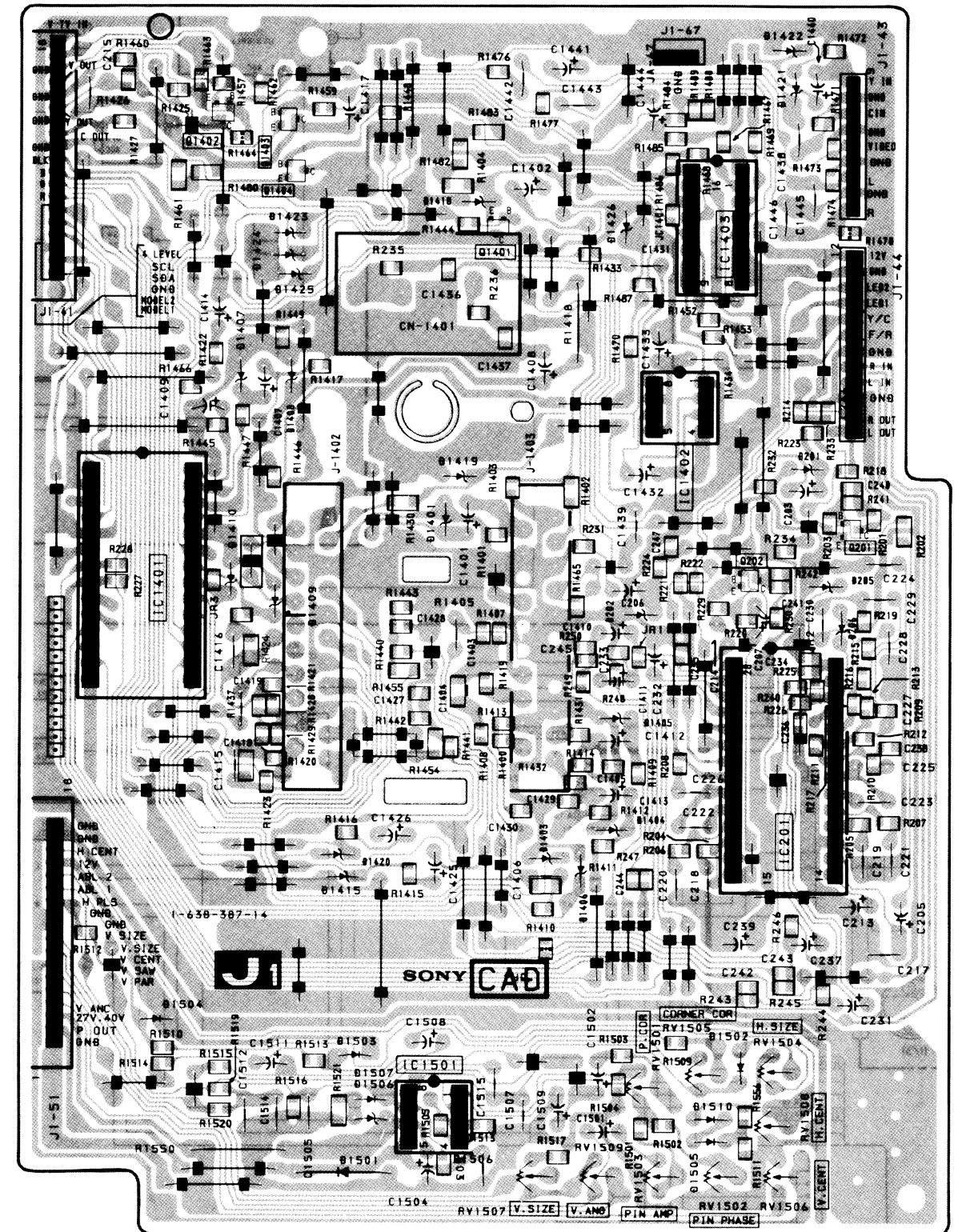
**A** [TUNER, SIF, VIF] **VM** [VM AMP]

**J1** [AUDIO CONTROL, AV INPUT  
Y/C INPUT, SCAR VIDEO OUT,  
EAST-WEST CORRECTION]

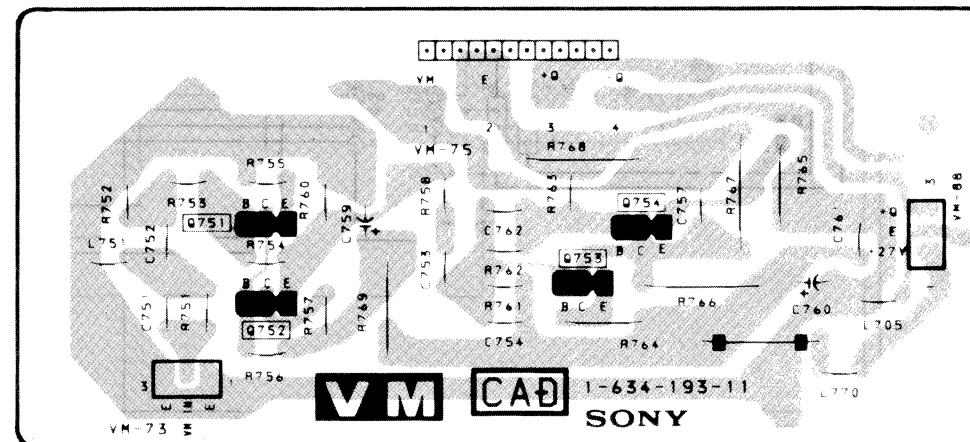
— A Board —

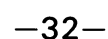


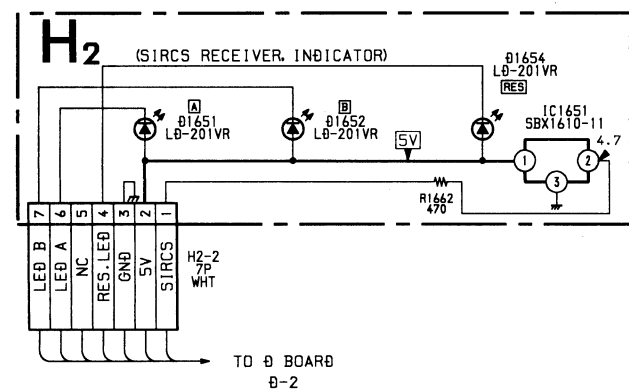
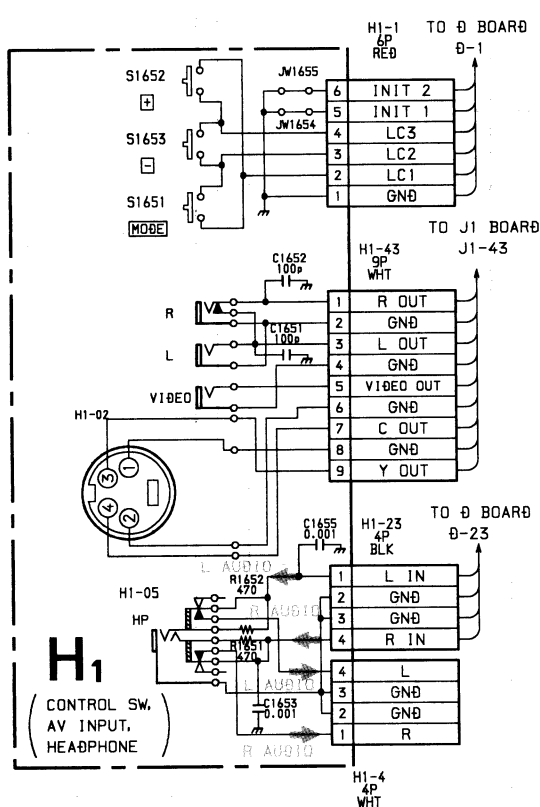
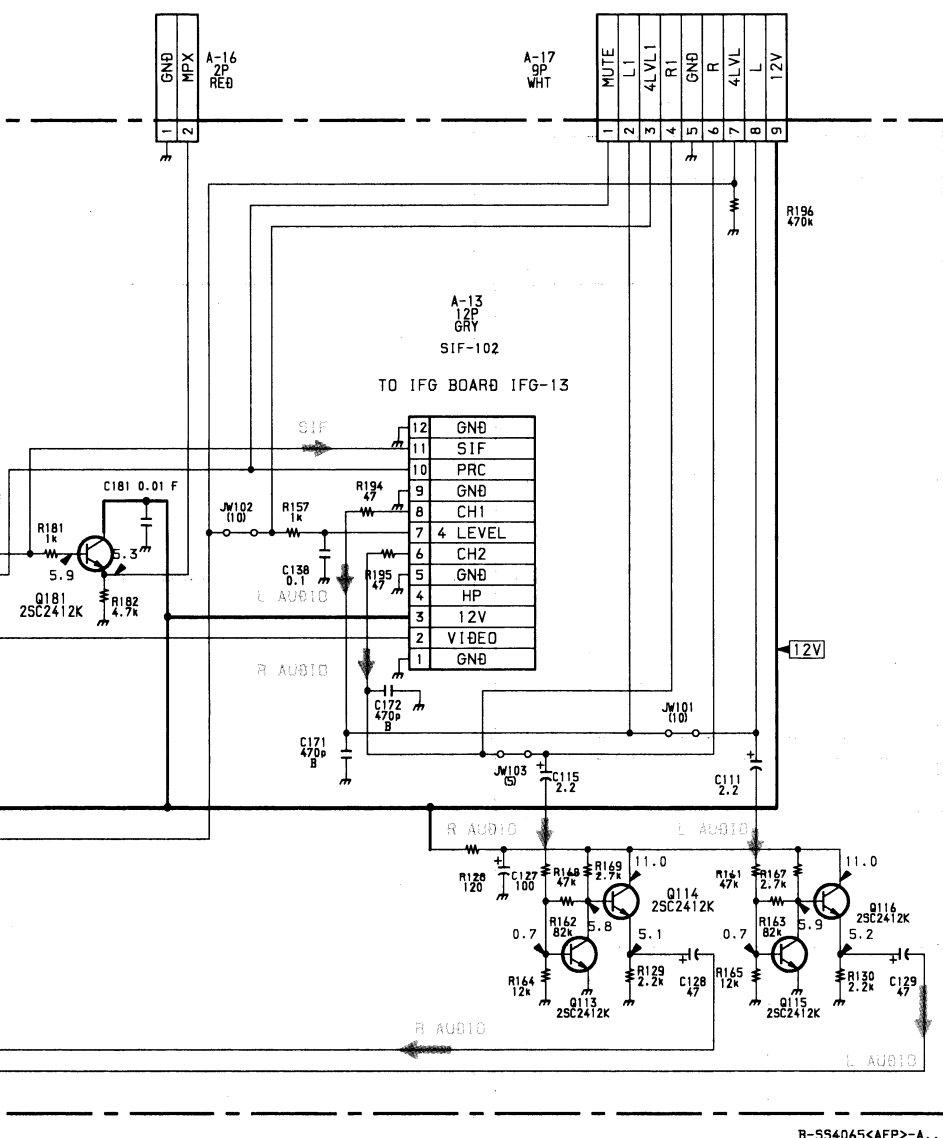
— J1 Board —



— VM Board — (29 inch only)







## H2 Board

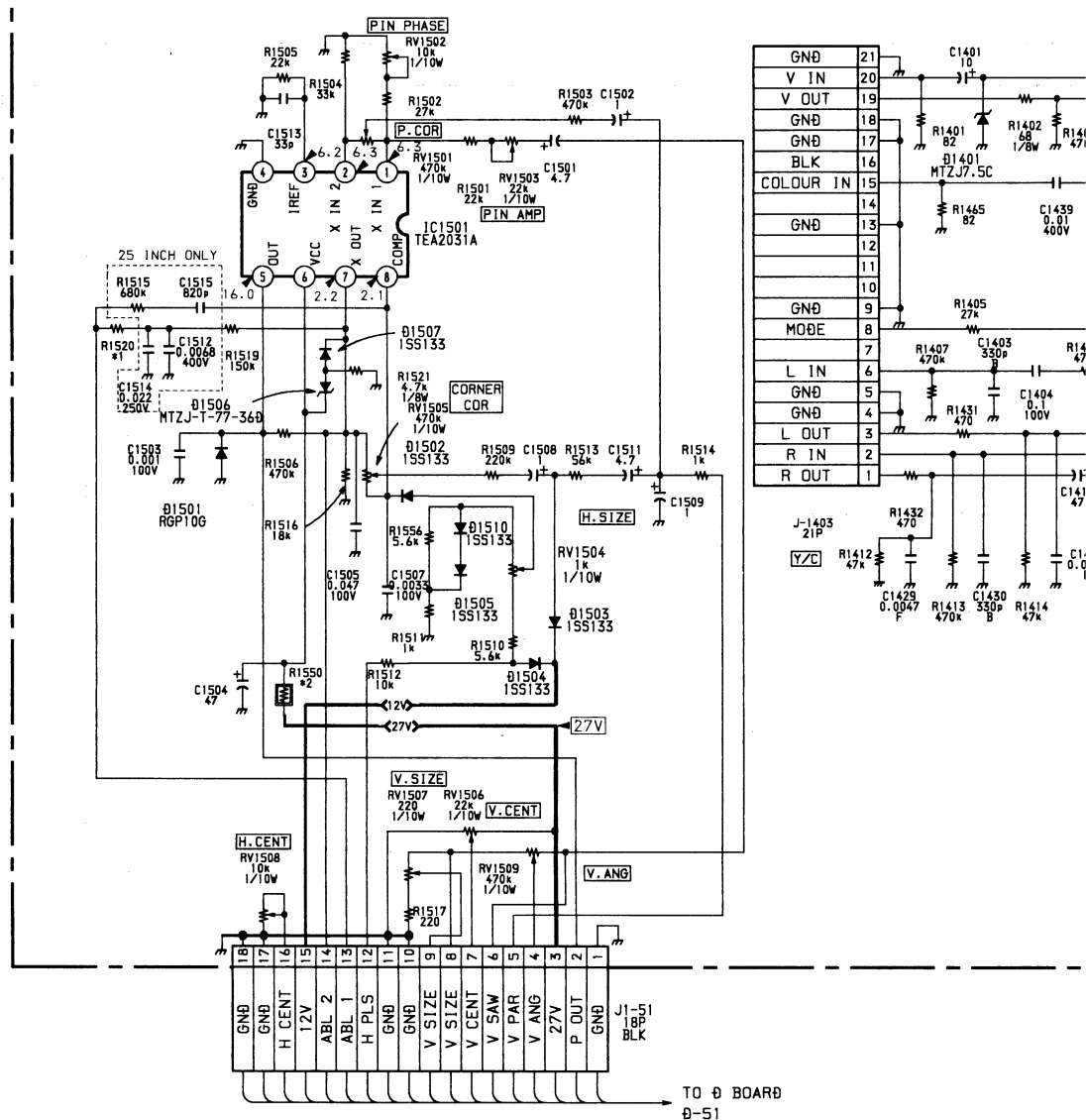
IC1651	SBX1610-11	INFRARED RECIEVER
D1651	LD-201VR	AUDIO CHANNEL A INDICATOR
D1652	LD-201VR	AUDIO CHANNEL B INDICATOR
D1654	LD-201VR	RESET

## J1

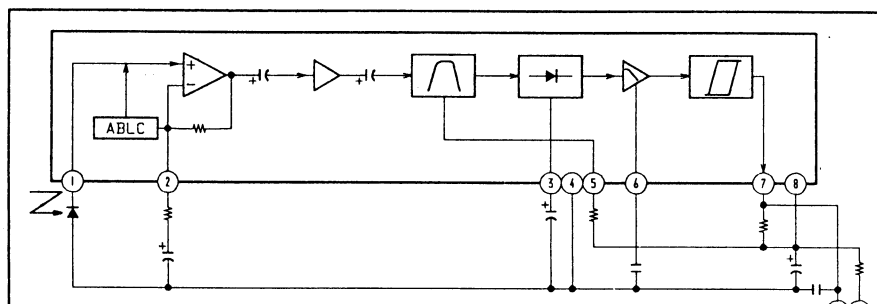
(AUDIO CONTROL,  
AV INPUT, Y/C INPUT,  
SCART VIDEO OUT,  
EAST-WEST CORRECTION)

J1 BOARD  
\* MARK

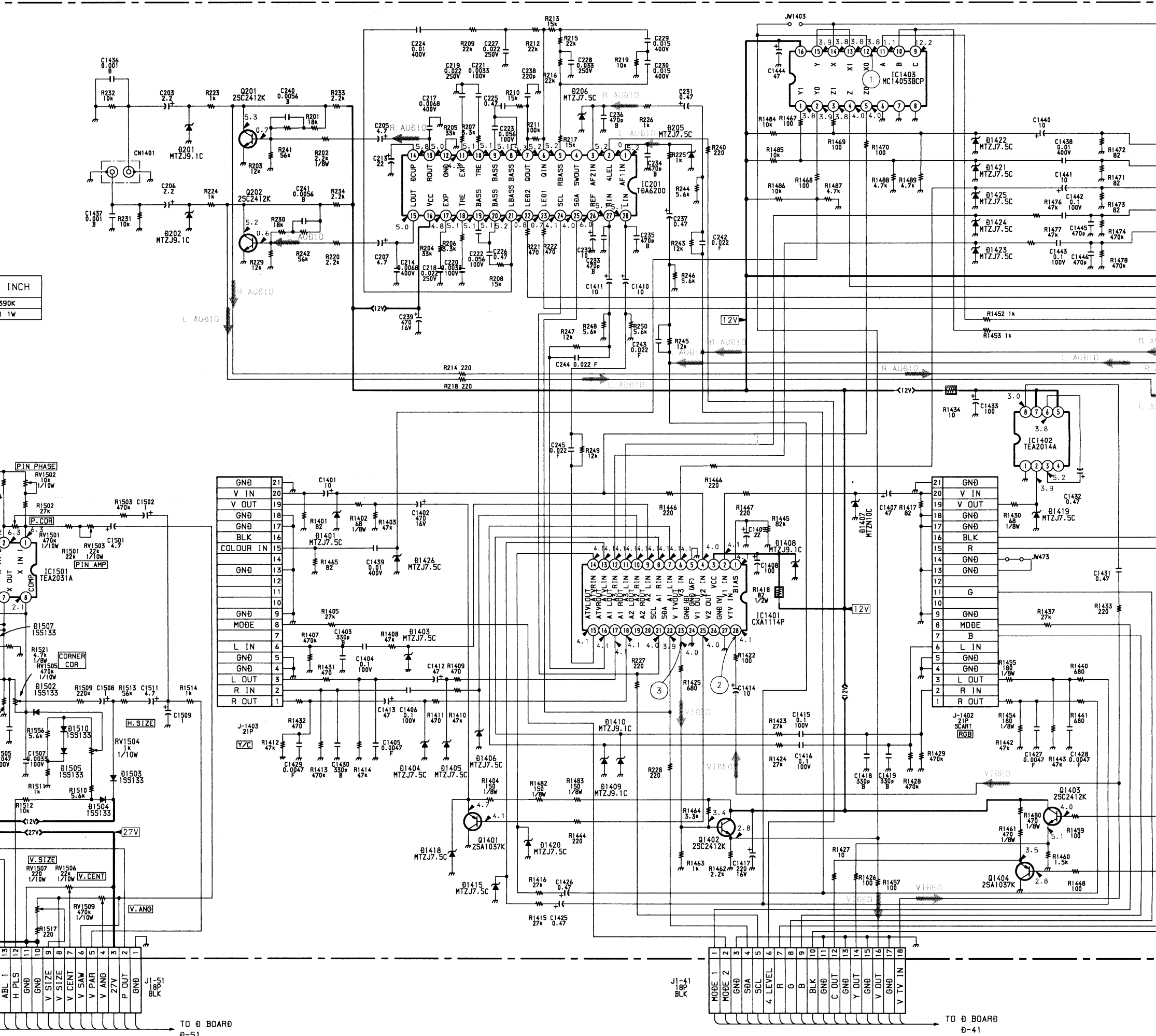
	25 INCH	29 INCH
*1 R1520	470K	390K
*2 R1550	JW (15)	1 1W



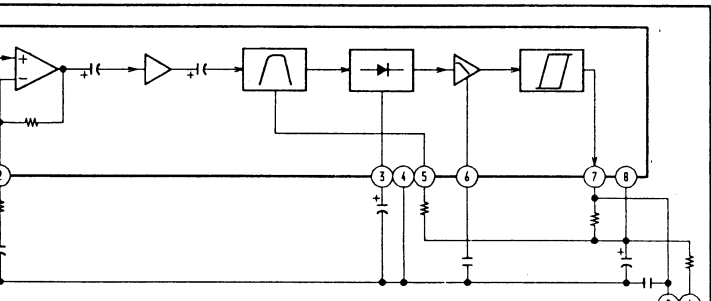
## H2 Board IC1651 SBX1610-11



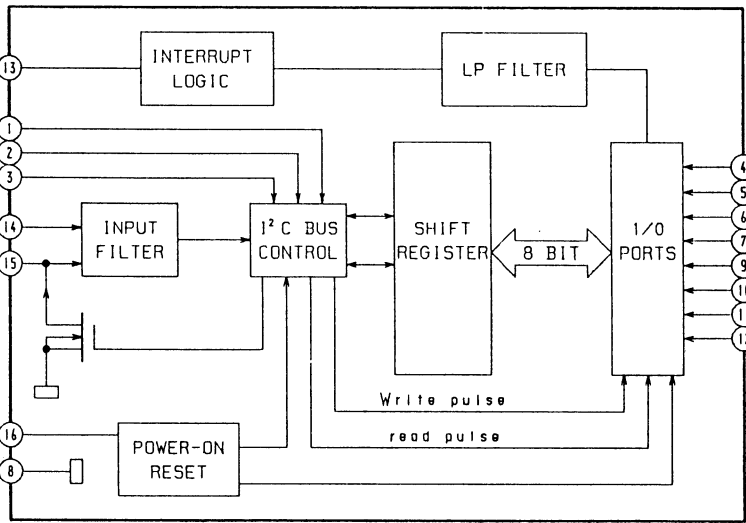




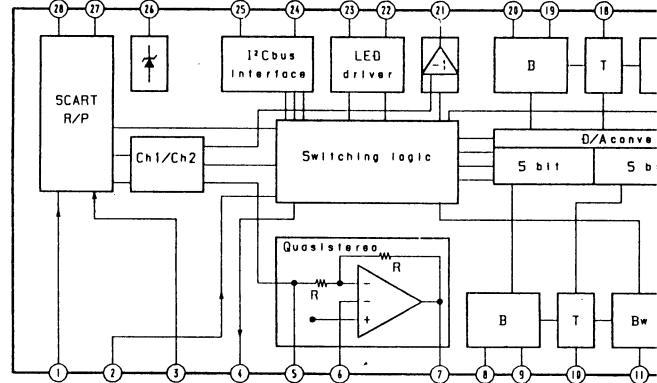
1651 SBX1610-11

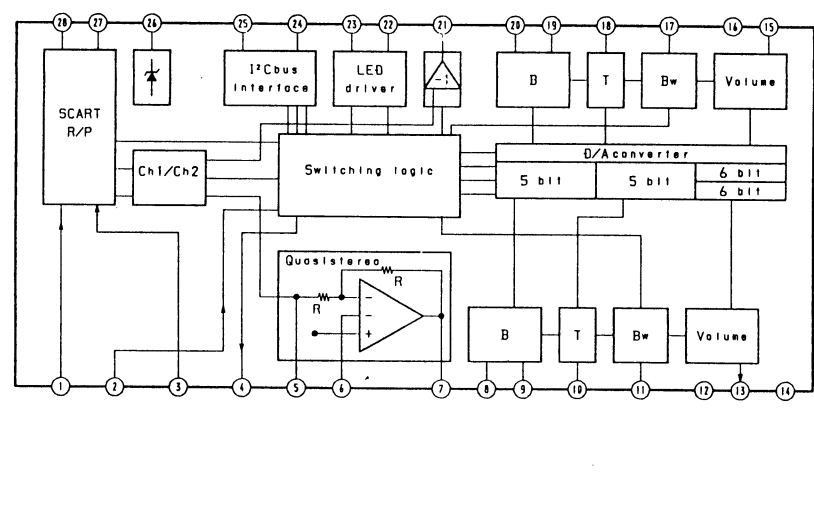


A Board IC103 PCF8574



J1 Board IC201 TDA6200

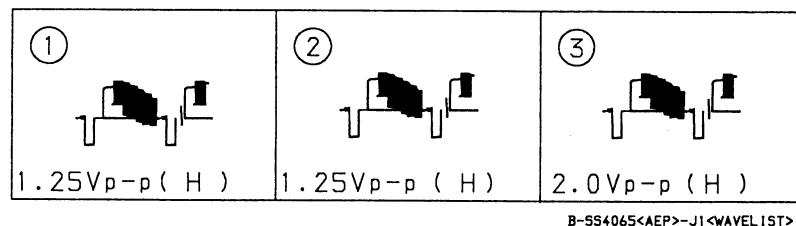




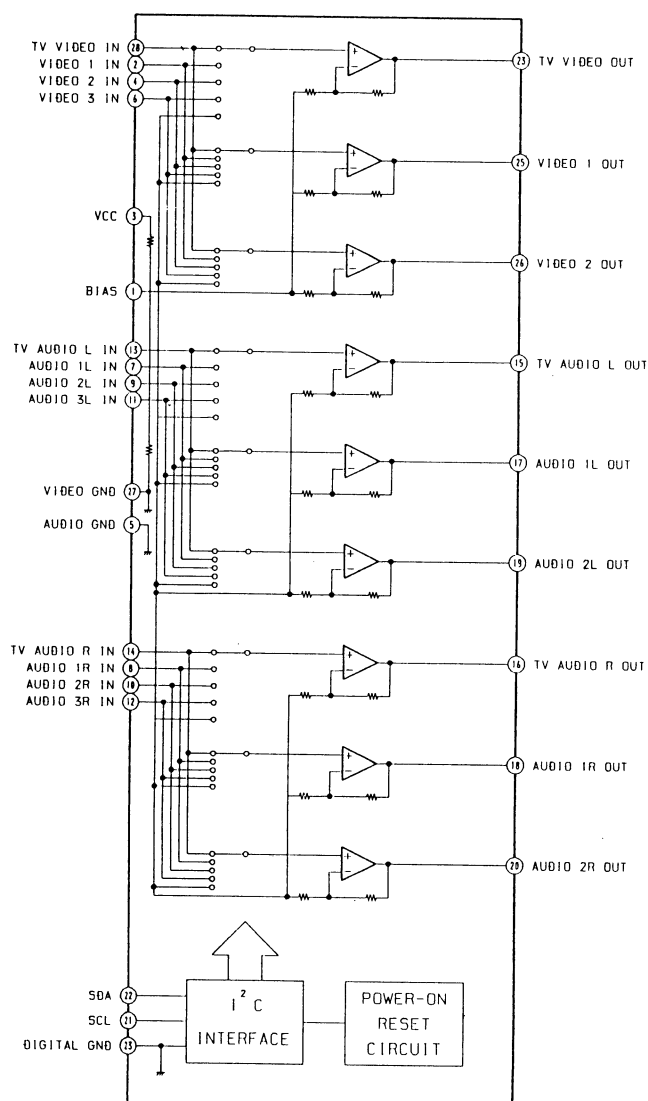
## J1 Board

IC201	TD46200	AUDIO CONTROL
IC1401	CXA1114P	AV SW
IC1402	TEA2014A	SCART VIDEO OUT
IC1403	MC14053BCP	COMPOSITE Y/C SW
IC1501	TEA2031A	EAST-WEST CORRECTION
Q201	2SC2412K	AUDIO R BUFF
Q202	2SC2412K	AUDIO L BUFF
Q1401	2SA1037K	VIDEO OUT
Q1402	2SC2412K	VIDEO OUT BUFF
Q1403	2SC2412K	Y OUT BUFF
Q1404	2SA1037K	C OUT BUFF
D201	MTZJ9.1C	PROTECT
D202	MTZJ9.1C	PROTECT
D205	MTZJ7.5C	PROTECT
D206	MTZJ7.5C	PROTECT
D1401	MTZJ7.5C	PROTECT
D1403	MTZJ7.5C	PROTECT
D1404	MTZJ7.5C	PROTECT
D1405	MTZJ7.5C	PROTECT
D1406	MTZJ7.5C	PROTECT
D1407	MTZJ10C	PROTECT
D1408	MTZJ9.1C	REG
D1409	MTZJ9.1C	PROTECT
D1410	MTZJ9.1C	PROTECT
D1415	MTZJ7.5C	PROTECT
D1418	MTZJ7.5C	PROTECT
D1419	MTZJ7.5C	PROTECT
D1420	MTZJ7.5C	PROTECT
D1421	MTZJ7.5C	PROTECT
D1422	MTZJ7.5C	PROTECT
D1423	MTZJ7.5C	PROTECT
D1424	MTZJ7.5C	PROTECT
D1425	MTZJ7.5C	PROTECT
D1426	MTZJ7.5C	PROTECT
D1501	RGPI0G	PROTECT
D1502	1SS133	DE COUPLING H SIZE
D1503	1SS133	CLIPPING V PARABORA
D1504	1SS133	CLIPPING H PULSE
D1505	1SS133	REG
D1506	MTZJ36D	PROTECT
D1507	1SS133	PROTECT
D1510	1SS133	REG

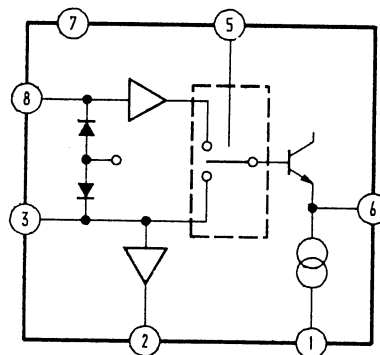
## J1 BOARD WAVEFORMS



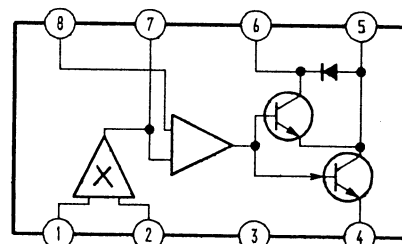
**J1 Board IC1401 CXA1114P**



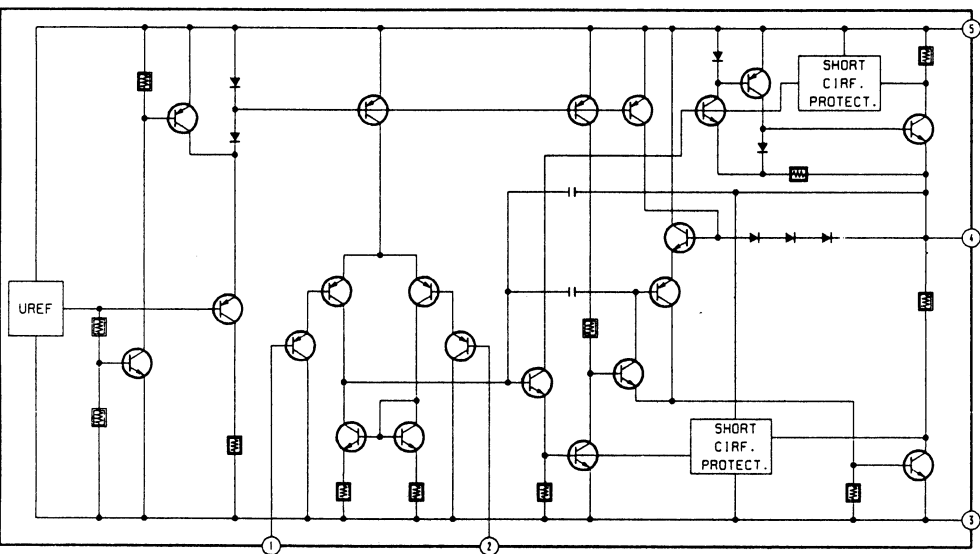
**J1 Board IC1402 TEA2014A**



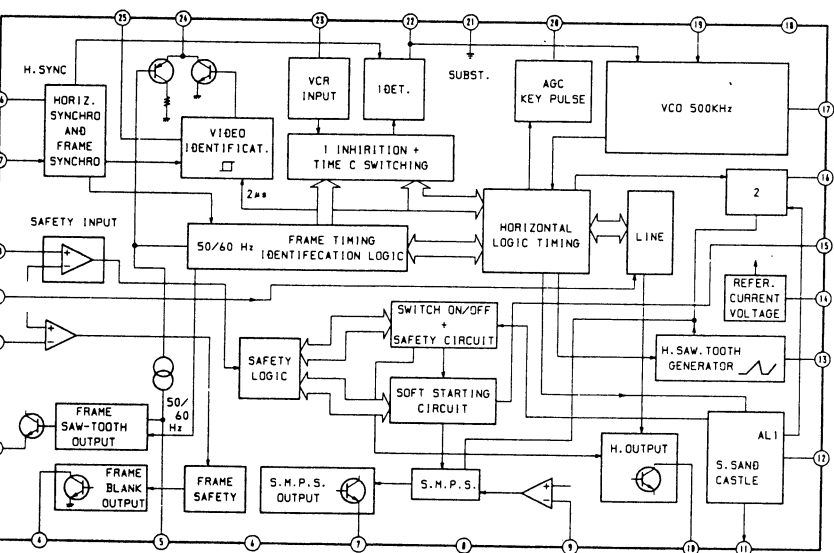
**J1 Board IC1501 TEA2031A**



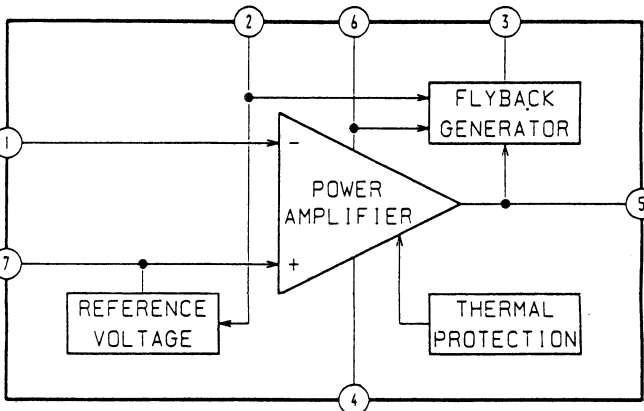
D Board IC251/IC261 TDA2050



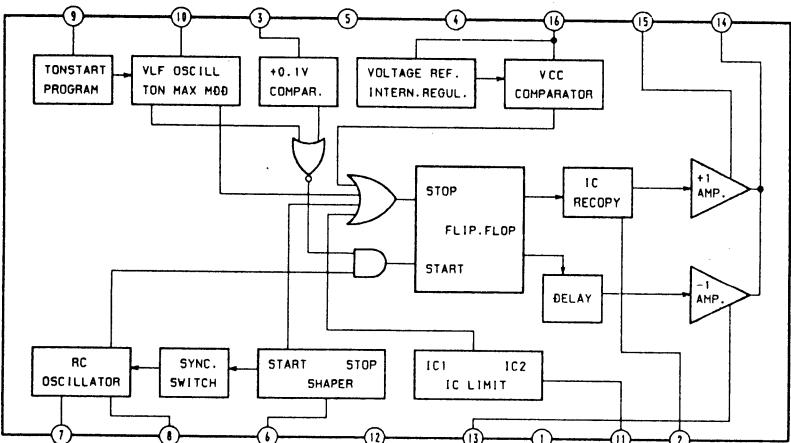
D Board IC501 TEA2028B



D Board IC502 TDA8170



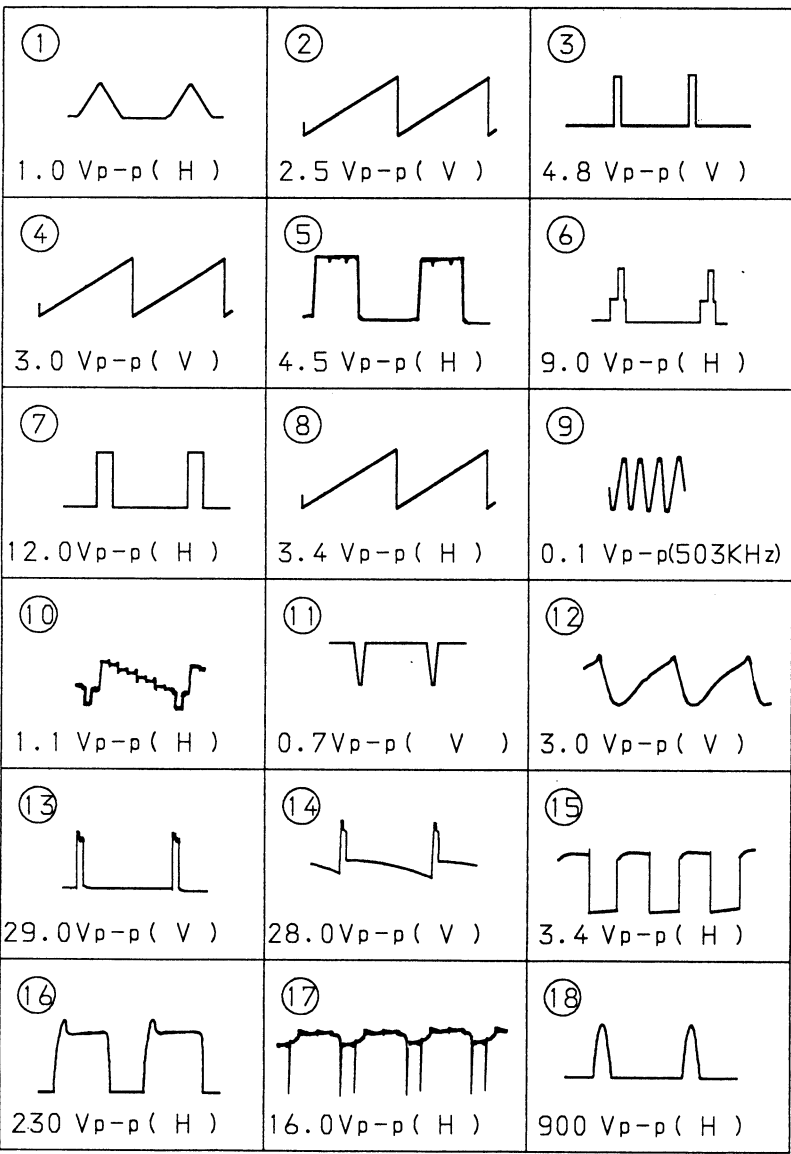
D Board IC601 TEA2260



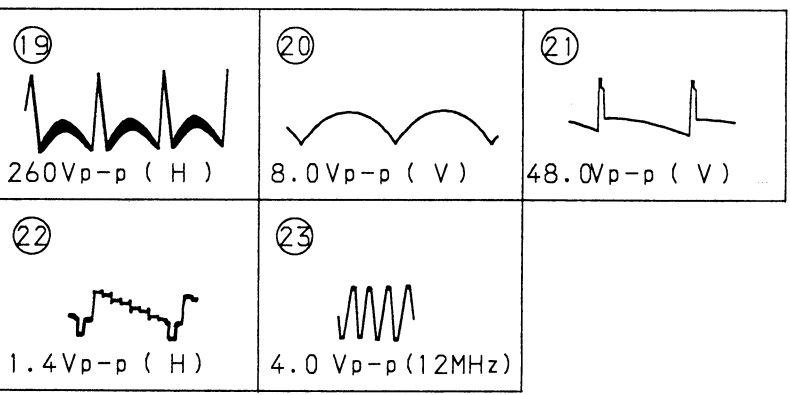
D Board

IC001	SDA20560-A012	TUNING CTL
IC002	MC14051BCP	ON SCREEN DIS
IC003	BA4558	AFT COMPARTO
IC005	SDA2546	MY MEMORY
IC251	TDA2050	AUDIO OUT(L)
IC261	TDA2050	AUDIO OUT(R)
IC501	TEA2028B	DEFLECTION PH
IC502	TDA8170	V OUT
IC601	TEA2260	PRIMARY SMRS
IC604	TEA7605	+5V REG
IC608	MC7812CT	+12V REG
Q001	DTC144EK	50/60Hz SW
Q002	DTC144EK	BLK SW
Q003	2SA1037-K	SYNC SEPARATC
Q004	2SA1037-K	SYNC SEPARATC
Q005	DTC144EK	Y/C SW
Q006	DTC144EK	FRONT/REAR SW
Q007	2SC2412-K	MODE 2 SWITCH
Q008	2SC2412-K	MODE 1 SWITCH
Q009	2SC2412-K	MUTE SW
Q010	2SC2412-K	RESET
Q251	2SC2412-K	AUDIO MUTE
Q261	2SC2412-K	AUDIO MUTE
Q271	2SC2412-K	VOLTAGE DETEC
Q502	2SA1037-K	CONSTANT CURR
Q505	2SD774-4	V CENT
Q506	2SB734-3	V CENT
Q507	2SA1037-K	CANAL +BLK
Q598	2SA1037-K	VIDEO AMP
Q601	2SD1357T114EF	STBY SW
Q602	2SD1548	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037-K	FAST ON/OFF
Q605	2SC2412-K	STBY SW
Q606	2SC2412-K	STBY SW
Q607	2SD2096	+12V REG
Q608	2SC2412K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412-K	ABL AMP
Q804	2SD1941-06	H OUT
Q805	2SC2688-L	H DRIVER
D001	MTZJ6.8C	
D002	MTZJ6.8C	
D003	1SS133	HUE CTL
D005	MTZJ5.6B	PROT
D006	MTZJ33A	VC VOLTAGE RE
D007	MTZJ3.9B	PLOT RESET
D009	MTZJ5.6B	CLIPPING SYNC
D010	MTZJ6.2B	PROT
D011	MTZJ6.2B	PROT
D012	1SS133	PROT
D013	MTZJ6.8C	PROT
D271	MTZJ13B	VOLTAGE DETEC
D272	1SS133	DECOUPLING MU
D501	1SS133	START
D504	GP08D	V PULSE OUT
D508	1SS133	CANAL +BLK LE
D509	1SS133	V LIN
D511	GP08D	PROT
D512	GP08D	PROT
D513	MTZJ4.7B	PROT
D514	1SS133	PROT
D515	1SS133	PROT
D601	D4SB60L-F	AC RECT
D602	RGP10G	REF RECT
D603	GP08D	SMPS DRIVE 1
D604	GP08D	SMPS DRIVE 2
D605	GP08D	SMPS DRIVE 3
D606	RGP10G	+12V RECT
D607	RGP10G	REF RECT
D608	ERC25-06S	PLUSE CLIPPER
D609	MTZJ33A	FAST ON/OFF
D610	CTU-12S	+14V RECT
D611	ERD29-08J	+135V RECT
D612	CTU-12S	+7V RECT
D613	RGP15J	AF V RECT-1
D614	RGP15J	AF V RECT-2
D616	MTZJ6.2B	+12V REG
D617	1SS133	PROT
D618	MTZJ5.6B	+12V REF
D619	MTZJ33A	FAST ON/OFF-2
D620	DA204K	+12V REF
D621	MTZJ33A	FAST ON/OFF-3
D622	1SS133	PROT
D623	1SS133	DECOUPLING ST
D624	1SS133	DECOUPLING DT
D630	MTZJ15A	+12V RECT
D801	RGP10G	+27V RECT
D802	RGP10G	+200V RECT
D803	RGP02-17	G2 RECT
D804	GP08D	H CENTER-1
D805	GP08D	H CENTER-2
D806	ERC06-15S	H DAMPER-1
D807	ERC06-15S	H DAMPER-2
D808	ERD29-08J	PIN DAMPER

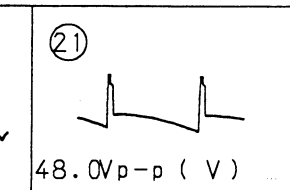
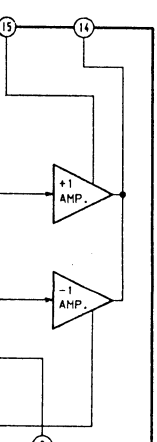
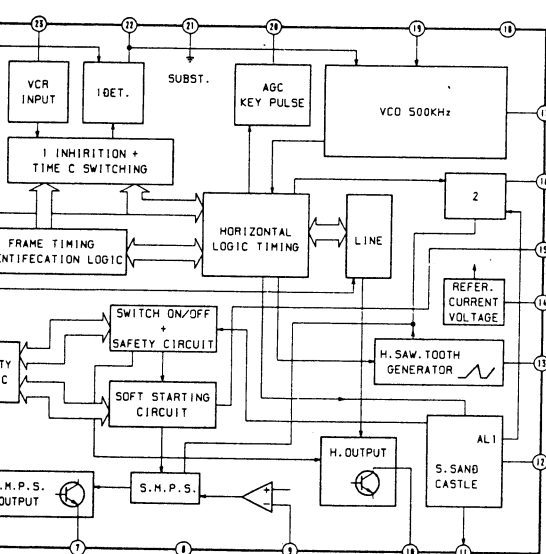
D BOARD WAVEFORMS



B-394065<AEP>-0<WAVELIST>-1

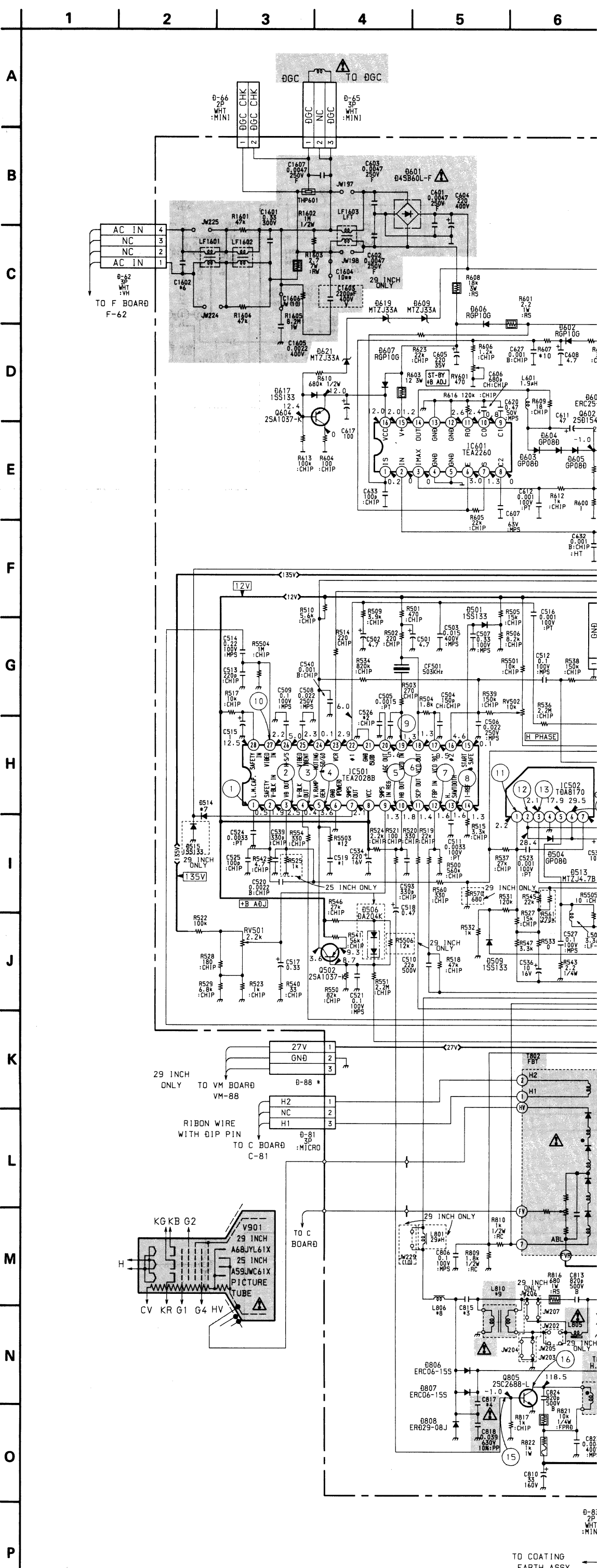


B-554065<AEP>-0<WAVELIST>-2



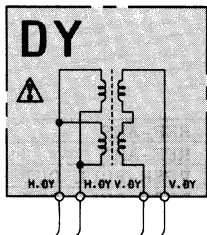
D Board

IC001	SDA20560-A012	TUNING CTL
IC002	MC14051BCP	ON SCREEN DISPLAY
IC003	BA4558	AFT COMPARTOR
IC005	SDA2546	MY MEMORY
IC251	TDA2050	AUDIO OUT(L)
IC261	TDA2050	AUDIO OUT(R)
IC501	TEA2028B	DEFLECTION PROCESSOR
IC502	TDA8170	V OUT
IC601	TEA2260	PRIMARY SMRS CTL
IC604	TEA7605	+5V REG
IC608	MC7812CT	+12V REG
Q001	DTC144EK	50/60Hz SW
Q002	DTC144EK	BLK SW
Q003	2SA1037-K	SYNC SEPARATOR
Q004	2SA1037-K	SYNC SEPARATOR
Q005	DTC144EK	Y/C SW
Q006	DTC144EK	FRONT/REAR SW
Q007	2SC2412-K	MODE 2 SWITCH
Q008	2SC2412-K	MODE 1 SWITCH
Q009	2SC2412-K	MUTE SW
Q010	2SC2412-K	RESET
Q251	2SC2412-K	AUDIO MUTE
Q261	2SC2412-K	AUDIO MUTE
Q271	2SC2412-K	VOLTAGE DETECT
Q502	2SA1037-K	CONSTANT CURRENT SOURCE
Q505	2SD774-4	V CENT
Q506	2SB734-3	V CENT
Q507	2SA1037-K	CANAL +BLK
Q598	2SA1037-K	VIDEO AMP
Q601	2SD1357T114EF	STBY SW
Q602	2SD1548	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037-K	FAST ON/OFF
Q605	2SC2412-K	STBY SW
Q606	2SC2412-K	STBY SW
Q607	2SD2096	+12V REG
Q608	2SC2412-K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412-K	ABL AMP
Q804	2SD1941-06	H OUT
Q805	2SC2688-L	H DRIVER
D001	MTZJ6.8C	
D002	MTZJ6.8C	
D003	1SS133	HUE CTL
D005	MTZJ5.6B	PROT
D006	MTZJ33A	VC VOLTAGE REGULATION
D007	MTZJ3.9B	PLOT RESET
D009	MTZJ5.6B	CLIPPING SYNC LEVEL
D010	MTZJ6.2B	PROT
D011	MTZJ6.2B	PROT
D012	1SS133	PROT
D013	MTZJ6.8C	PROT
D271	MTZJ13B	VOLTAGE DETECT
D272	1SS133	DECOUPLING MUTE AUDIO
D501	1SS133	START
D504	GP08D	V PULSE OUT
D508	1SS133	CANAL +BLK LEVEL
D509	1SS133	V LIN
D511	GP08D	PROT
D512	GP08D	PROT
D513	MTZJ4.7B	PROT
D514	1SS133	PROT
D515	1SS133	PROT
D601	D4SB60L-F	AC RECT
D602	RGP10G	REF RECT
D603	GP08D	SMPS DRIVE 1
D604	GP08D	SMPS DRIVE 2
D605	GP08D	SMPS DRIVE 3
D606	RGP10G	+12V RECT
D607	RGP10G	REF RECT
D608	ERC25-06S	PLUSE CLIPPER
D609	MTZJ33A	FAST ON/OFF
D610	CTU-12S	+14V RECT
D611	ERD29-08J	+135V RECT
D612	CTU-12S	+7V RECT
D613	RGP15J	AF V RECT-1
D614	RGP15J	AF V RECT-2
D616	MTZJ6.2B	+12V REG
D617	1SS133	PROT
D618	MTZJ5.6B	+12V REF
D619	MTZJ33A	FAST ON/OFF-2
D620	DA204K	+12V REF
D621	MTZJ33A	FAST ON/OFF-3
D622	1SS133	PROT
D623	1SS133	DECOUPLING STBY
D624	1SS133	DECOUPLING DTBY
D630	MTZJ15A	+12V RECT
D801	RGP10G	+27V RECT
D802	RGP10G	+200V RECT
D803	RGP02-17	G2 RECT
D804	GP08D	H CENTER-1
D805	GP08D	H CENTER-2
D806	ERC06-15S	H DAMPER-1
D807	ERC06-15S	H DAMPER-2
D808	ERD29-08J	PIN DAMPER



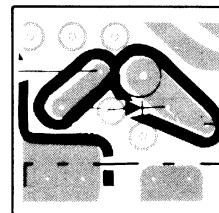






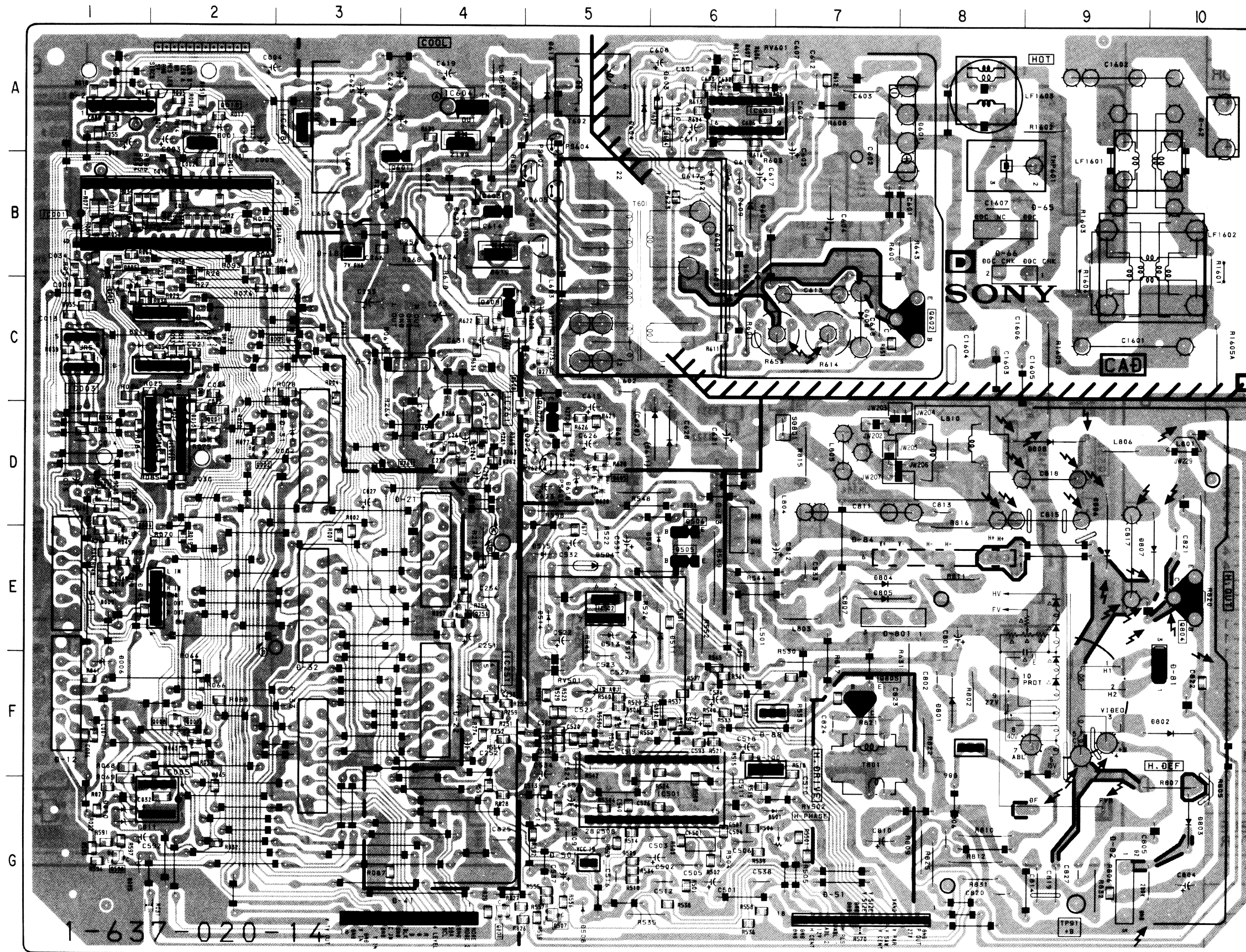


**D** TUNING CONTROL,  
POWER CONTROL,  
AUDIO OUT, H/V OUT



**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

- D Board -

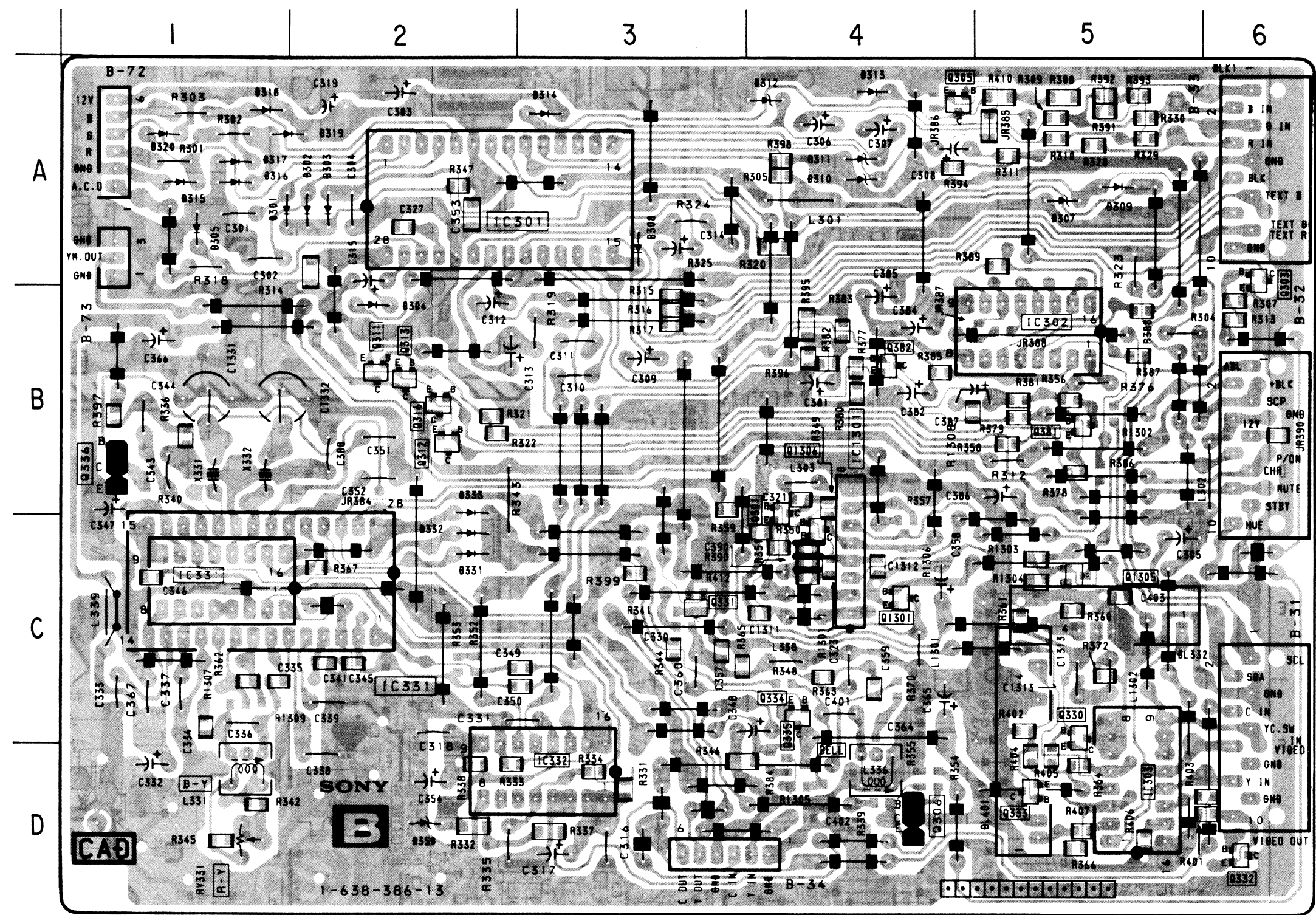


IC		D272	D-5
IC001	B-2	D501	G-7
IC002	D-2	D504	E-5
IC003	C-1	D506	F-5
IC005	G-2	D508	H-5
IC251	F-4	D509	E-6
IC261	D-4	D511	E-6
IC501	G-6	D512	E-5
IC502	E-5	D513	E-5
IC601	A-6	D514	E-5
IC604	A-4	D515	E-5
IC608	A-3	D601	A-8
TRANSISTOR		D602	C-6
Q001	D-2	D603	A-6
Q002	D-2	D604	A-5
Q003	D-1	D605	B-6
Q004	E-1	D606	B-6
Q005	C-1	D607	B-6
Q006	C-1	D608	C-7
Q007	F-2	D609	B-6
Q008	F-2	D610	B-4
Q009	C-3	D611	D-6
Q010	A-2	D612	A-4
Q251	E-4	D613	A-5
Q261	D-4	D614	A-5
Q271	C-5	D616	D-5
Q502	F-5	D617	B-6
Q505	E-6	D618	D-5
Q506	E-6	D619	B-6
Q507	H-5	D620	D-5
Q598	G-1	D621	B-6
Q601	B-3	D622	D-5
Q602	C-8	D623	B-4
Q603	B-4	D624	B-4
Q604	A-6	D630	D-5
Q605	D-5	D801	F-8
Q606	C-4	D802	F-10
Q607	D-5	D803	G-10
Q608	C-4	D804	E-7
Q609	C-4	D805	E-7
Q801	H-4	D806	E-9
Q804	E-10	D807	E-10
Q805	F-7	D808	D-9
DIODE		VARIABLE RESISTOR	
D001	A-2	RV501	F-5
D002	D-3	RV502	G-7
D003	A-2	RV601	A-6
D005	G-1	TP	
D006	F-1		
D007	A-2	TP	
D009	E-1		
D010	G-1	TP91	J-9
D011	G-1		
D012	C-1		
D013	D-2		
D271	C-5		



IC	
IC301	A-2
IC302	B-5
IC303	D-5
IC331	C-1
IC332	D-3
IC1301	B-4
TRANSISTOR	
Q301	B-4
Q303	A-6
Q305	A-4
Q306	D-4
Q311	B-2
Q312	B-2
Q313	B-2
Q316	B-2
Q330	C-5
Q331	C-3
Q332	D-6
Q333	D-5
Q334	C-4
Q335	C-4
Q381	B-5
Q382	B-4
Q1301	C-4
Q1305	C-5
Q1306	C-4
DIODE	
D301	A-1
D302	A-2
D303	A-2
D304	B-2
D305	A-1
D307	A-5
D309	A-5
D310	A-4
D311	A-4
D312	A-4
D313	A-4
D314	A-3
D315	A-1
D316	A-1
D317	A-1
D318	A-1
D319	A-1
D320	A-1
D331	C-2
D332	C-2
D333	B-2
D350	D-2
TRIMMER	
CT331	B-1
CT332	B-1
VARIABLE RESISTOR	
RV331	D-1
COIL	
L331	D-1
L332	D-4

- B Board -







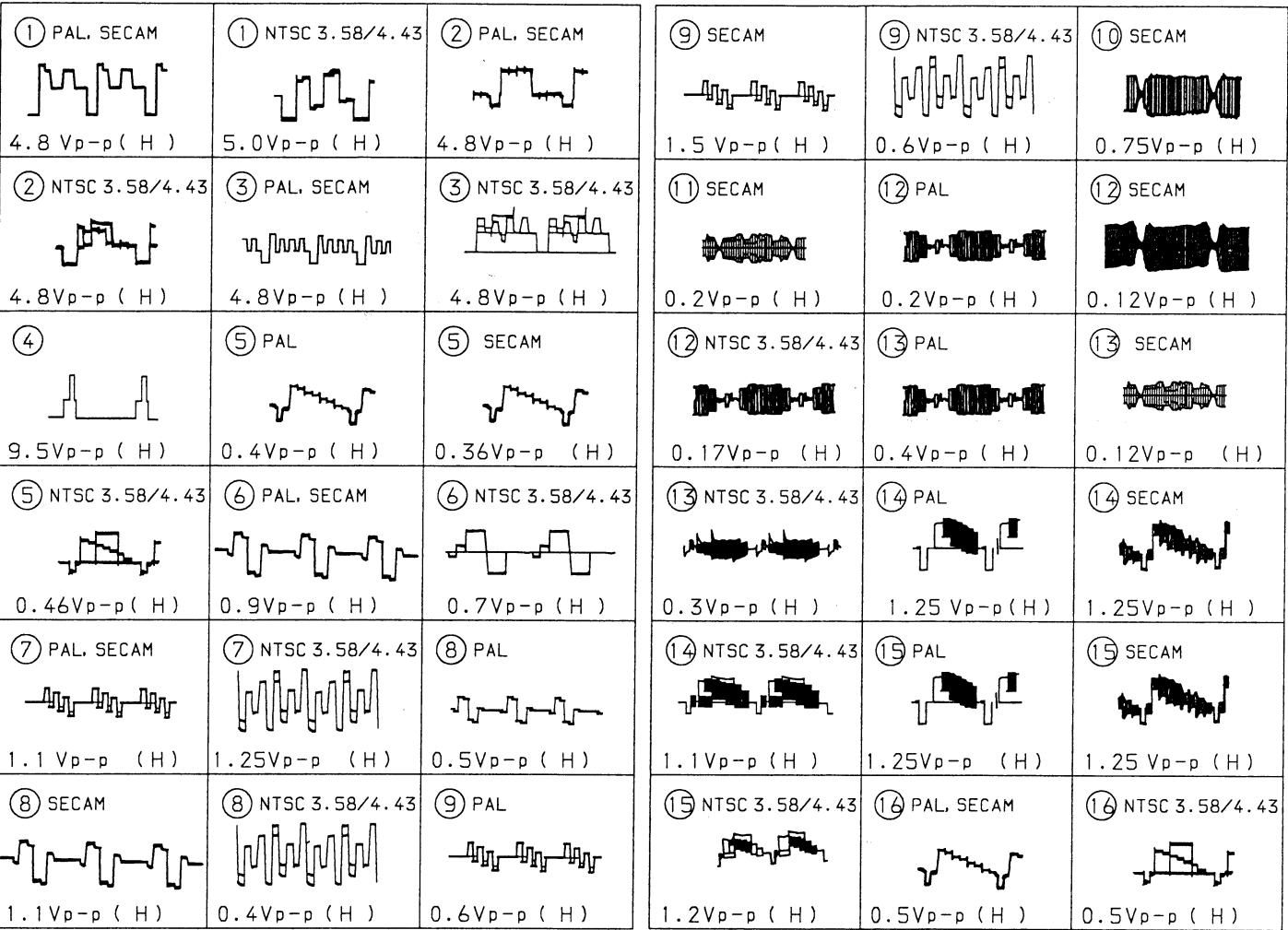
B Board

IC301	TDA4580-V7	VIDEO PROCESSOR
IC302	TDA8442-N3	D/A CONVERTER IC BUS
IC303	MC14053BCP	Y/C COMP SW
IC331	TDA4650	COLOR PROCESSOR
IC332	TDA4660V2	1H-DELAY
IC1301	HIC2110	SHARPNESS CONTROL
Q301	2SC2412K	Y AMP(25" ONLY)
Q303	2SC2412K	STBY SW
Q305	DTA144EK	ANTI PRIORITY SCART
Q306	JC501TP	VIDEO BUF(HUE)
Q311	2SC2412K	ON SCREEN DISPLAY SW
Q312	2SC2412K	CANRL +BLK
Q313	2SC2412K	ON SCREEN DISPLAY
Q316	2SC2412K	FAS PICTURE MUTE SW
Q330	2SA1037K	VIDEO AMP
Q331	DTC124EK	NTSC SW
Q332	2SA1037K	VIDEO BUFF
Q333	2SA1037K	Y AMP
Q334	2SC2412K	PAL/NTSC SW
Q335	2SC2412K	SECAM SW
Q381	DTC124EK	MUTE
Q382	2SC2412K	ABL
Q1301	DTC124EK	Y BUFF
Q1305	2SC2412K	Y OUT
Q1306	2SC2412K	Y OUT
D301	1SS133	ACO AT STBY
D302	1SS133	ACO AT STBY
D303	1SS133	ACO AT STBY
D304	1SS133	DECOUPLING BLK
D305	1SS133	PROT
D307	MTZ11CJ	PROT
D309	1SS133	PROT
D310	MTZ11CJ	PROT
D311	MTZ11CJ	PROT
D312	MTZ11CJ	PROT
D313	1SS133	PROT
D314	1SS133	PROT
D315	1SS133	PROT
D316	1SS133	PROT
D317	1SS133	PROT
D318	1SS133	PROT
D319	1SS133	PROT
D320	1SS133	PROT
D331	1SS133	SECAM SW
D332	1SS133	SECAM SW
D333	1SS133	SECAM SW
D350	MTZ5.6BJ	PROT

	25 INCH	29 INCH
*1 C1311	56P	33P
*2 R322	1K	1.2K
*3 R377	560	2.2K
*4 R382	220K	180K
*5 R390	220	100
*6 R1308	0	4.7K

	PAL	SECAM	NTSC3.58	NTSC4.43
IC301	0.1	0.1	5.8	0.1
IC331	6.7	6.8	5.1	6.5
	3.1	3.6	3.1	2.8
	3.0	3.5	2.9	2.7
	5.6	5.6	7.1	7.2
	7.5	7.0	5.6	5.6
	0.1	0.1	0.1	5.8
	0.1	0.1	5.8	0.1
	0.1	5.8	0.1	0.1
	5.9	0.1	0.1	0.1
Q331	0.1	0.1	5.8	0.1
	0.3	0.4	0	0.8
Q333	4.4	4.4	4.4	4.4
Q334	4.9	0.1	4.8	4.8
Q335	0.1	4.8	0.1	0.1

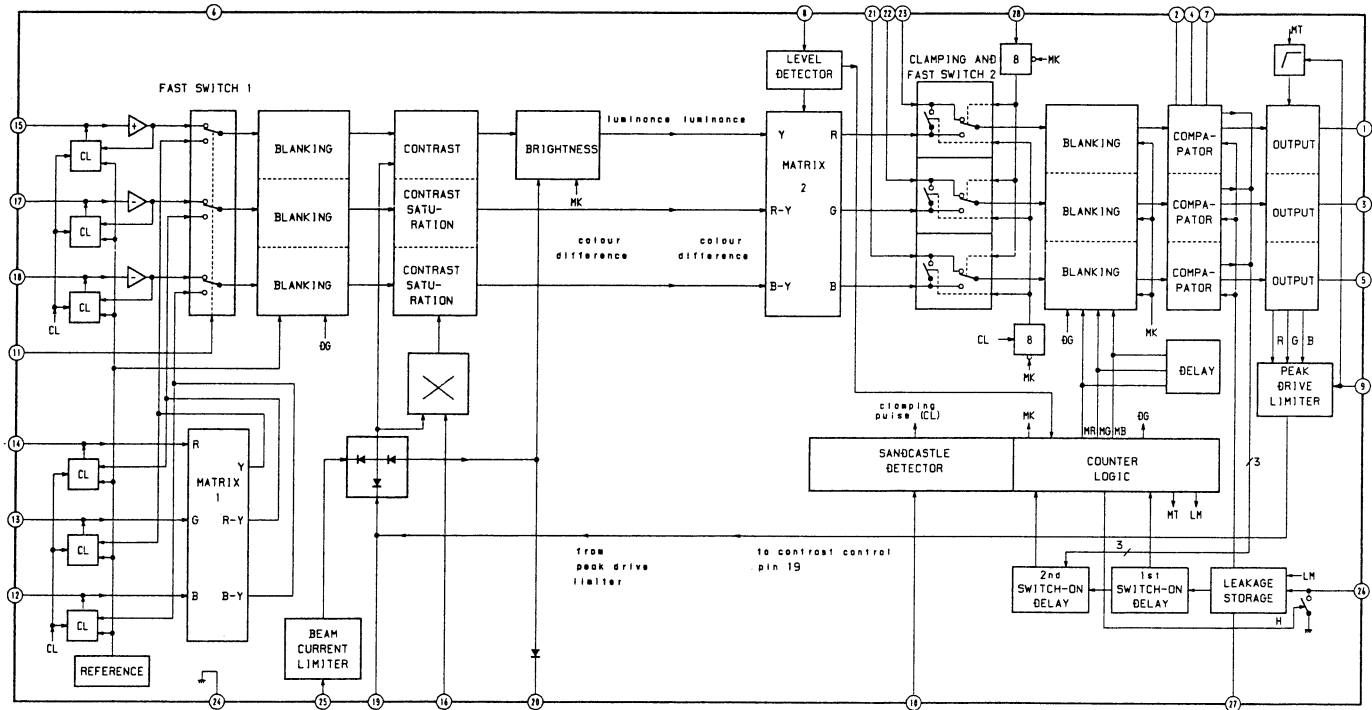
B BOARD WAVEFORMS



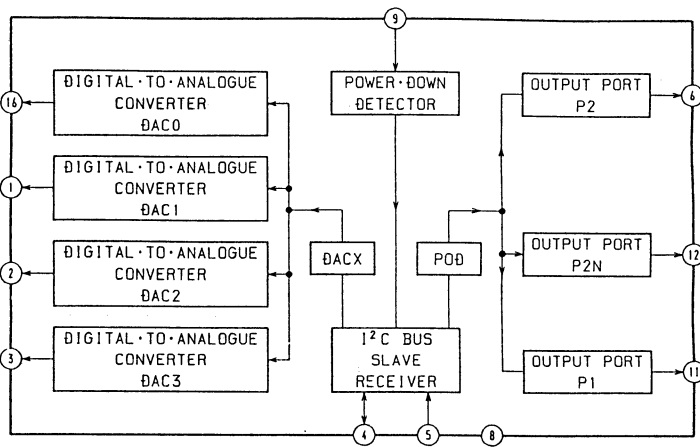
B-SS4065<AEP>-B<WAVELIST>-1

B-SS4065<AEP>-B<WAVELIST>-2

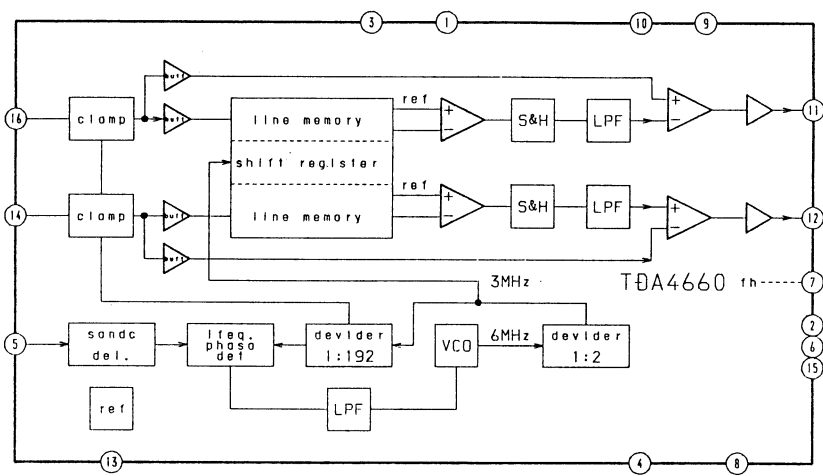
B Board IC301 TDA4580V7



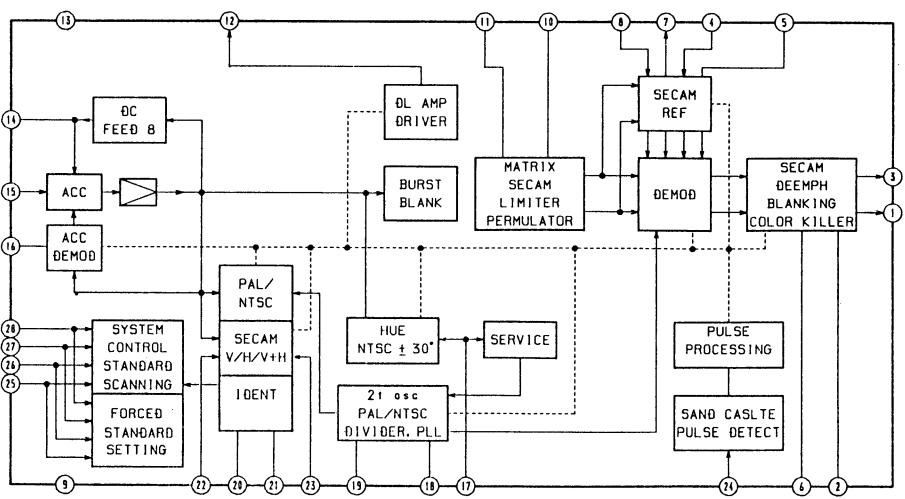
B Board IC302 TDA8442-N3



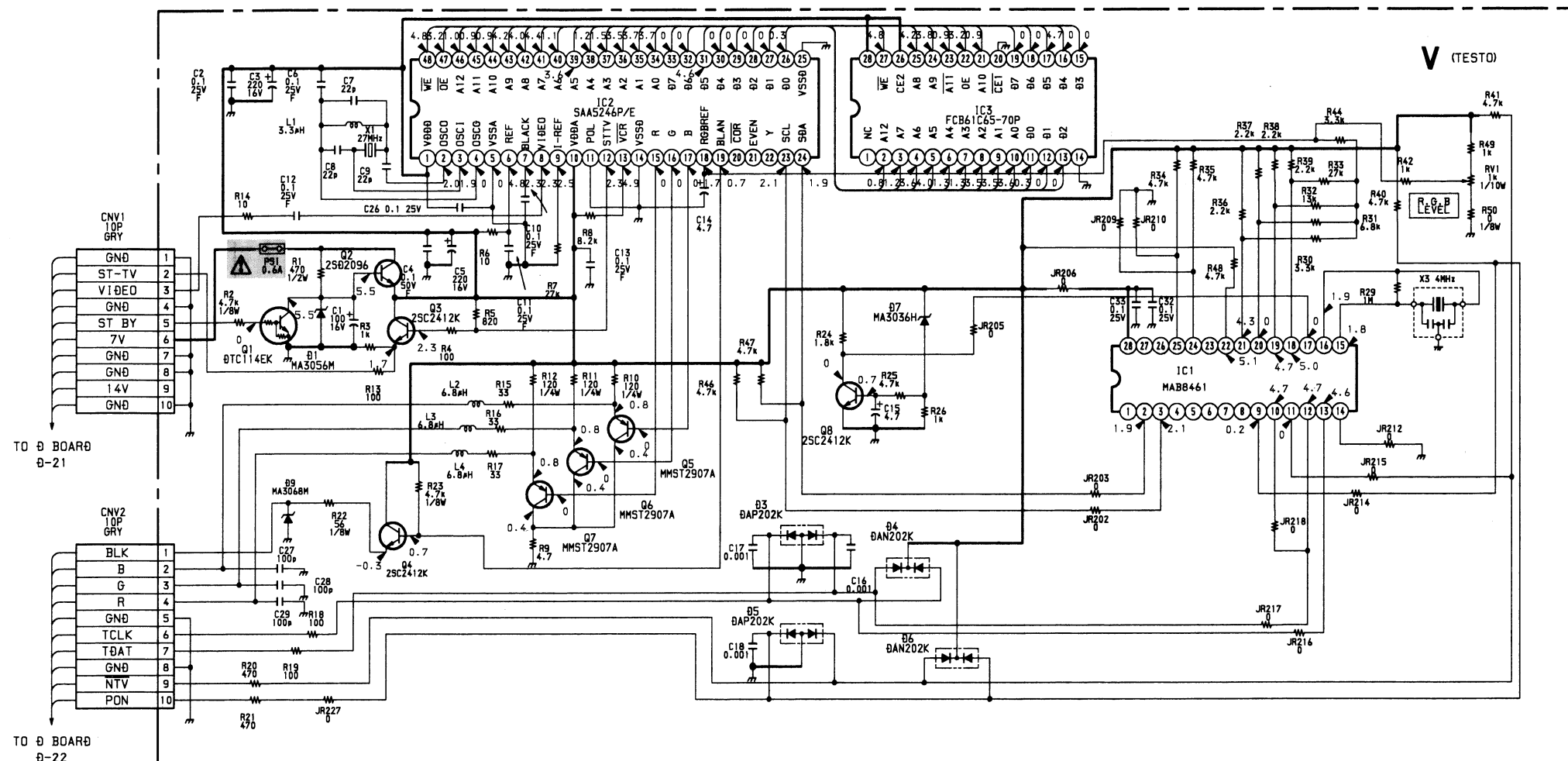
B Board IC332 TDA4660V2



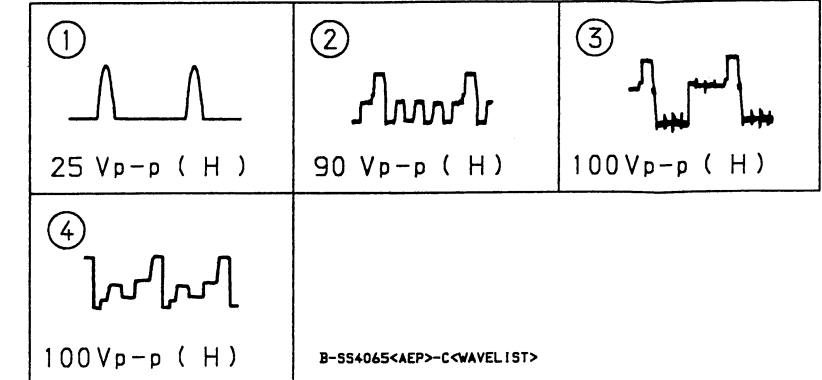
B Board IC331 TDA4650



A  
B  
C  
D  
E  
F  
G  
H  
I  
J



C BOARD WAVEFORMS



B-SS4065<AEP>-C<WAVELIST>

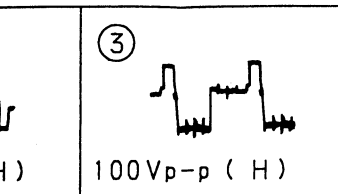
C BOARD  
\* MARK

	25 INCH	29 INCH
*1 C703	270P	330P
*2 C705	220P	270P
*3 C712	270P	330P
*4 R737	820K	470K

B-SS4065<AEP>-V..

V Board

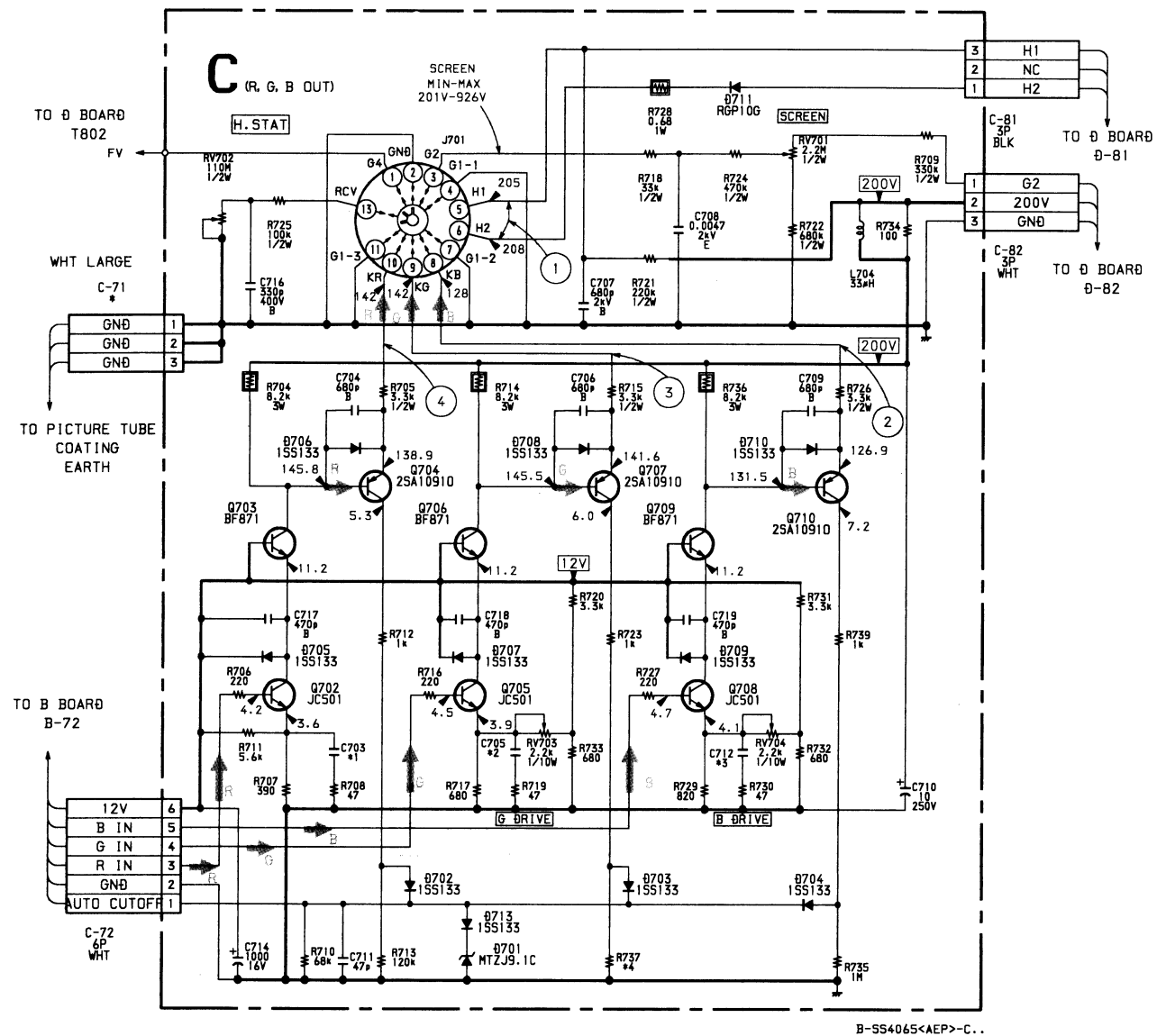
IC1	MAB8461	MICRO-CONT
IC2	SAA5246P/E	IVT
IC3	FCB61C65-70P	STATIC-RAM
Q1	DTC114EK	STAND BY
Q2	2SD2096	5V REG
Q3	2SC2412K	SYNC BUFFER
Q4	2SC2412K	BLK OUT
Q5	MMST2907A	B OUT
Q6	MMST2907A	G OUT
Q7	MMST2907A	R OUT
Q8	2SC2412K	RESET
D1	MA3056M	5V REG
D3	DAP202K	PROTEC
D4	DAN202K	PROTEC
D5	DAP202K	PROTEC
D6	DAN202K	PROTEC
D7	MA3036H	PROTEC
D9	MA3068M	PROTEC



VELIST>

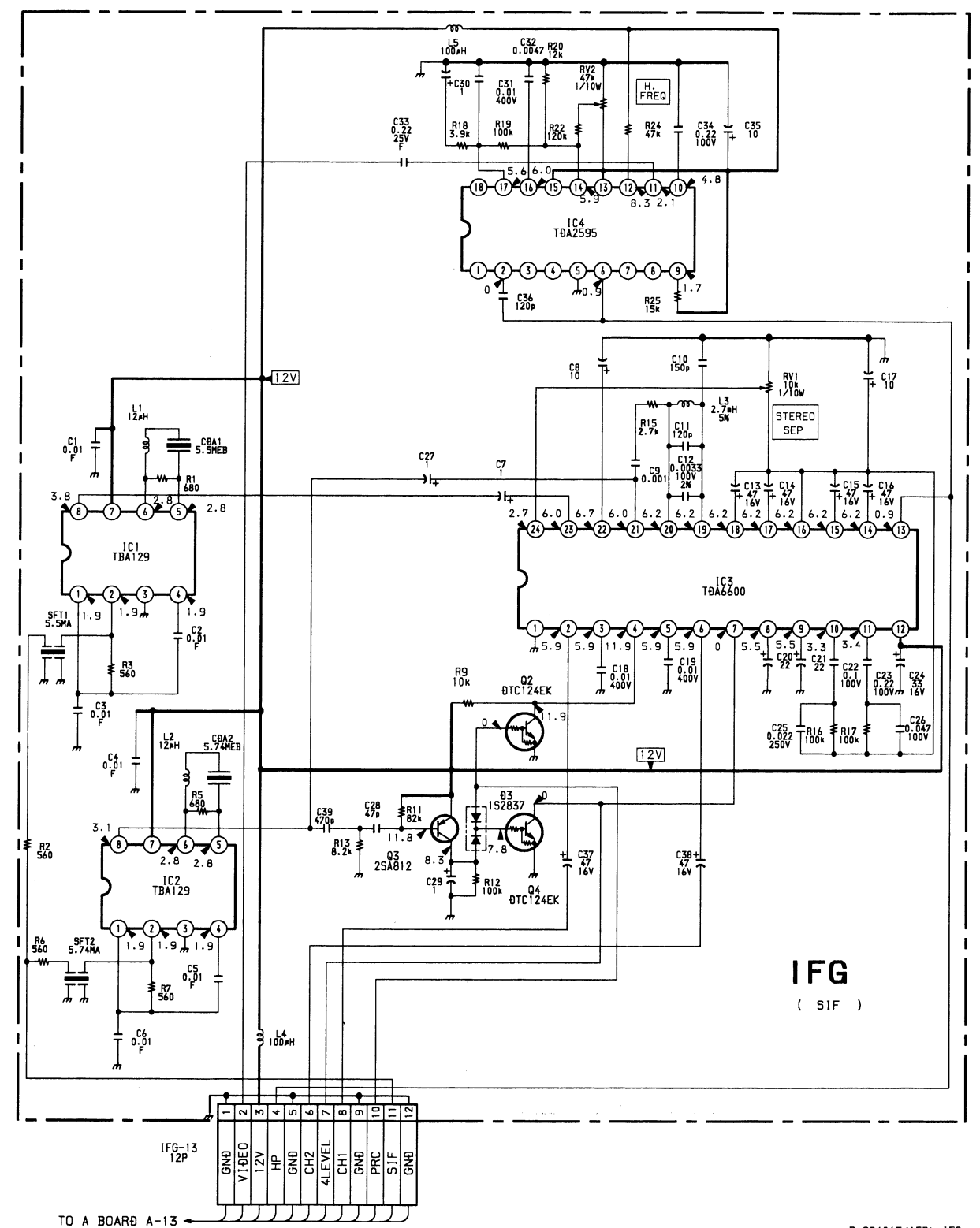
ARD  
RK

	25 INCH	29 INCH
	270P	330P
	220P	270P
	270P	330P
	820K	470K



C Board

Q702	JC501	R DRIVE
Q703	BF871	R OUT
Q704	2SA10910	ACO MEASURING
Q705	JC501	G DRIVE
Q706	BF871	G OUT
Q707	2SA10910	ACO MEASURING
Q708	JC501	B DRIVE
Q709	BF871	B OUT
Q710	2SA10910	ACO MEASURING
D701	MTZJ9.1C	PROTECT
D702	1SS133	PROTECT
D703	1SS133	PROTECT
D704	1SS133	PROTECT
D705	1SS133	PROTECT
D706	1SS133	PROTECT
D707	1SS133	PROTECT
D708	1SS133	PROTECT
D709	1SS133	PROTECT
D710	1SS133	PROTECT
D711	RGP10G	HEATING VOLTAGE REC
D713	1SS133	PROTECT



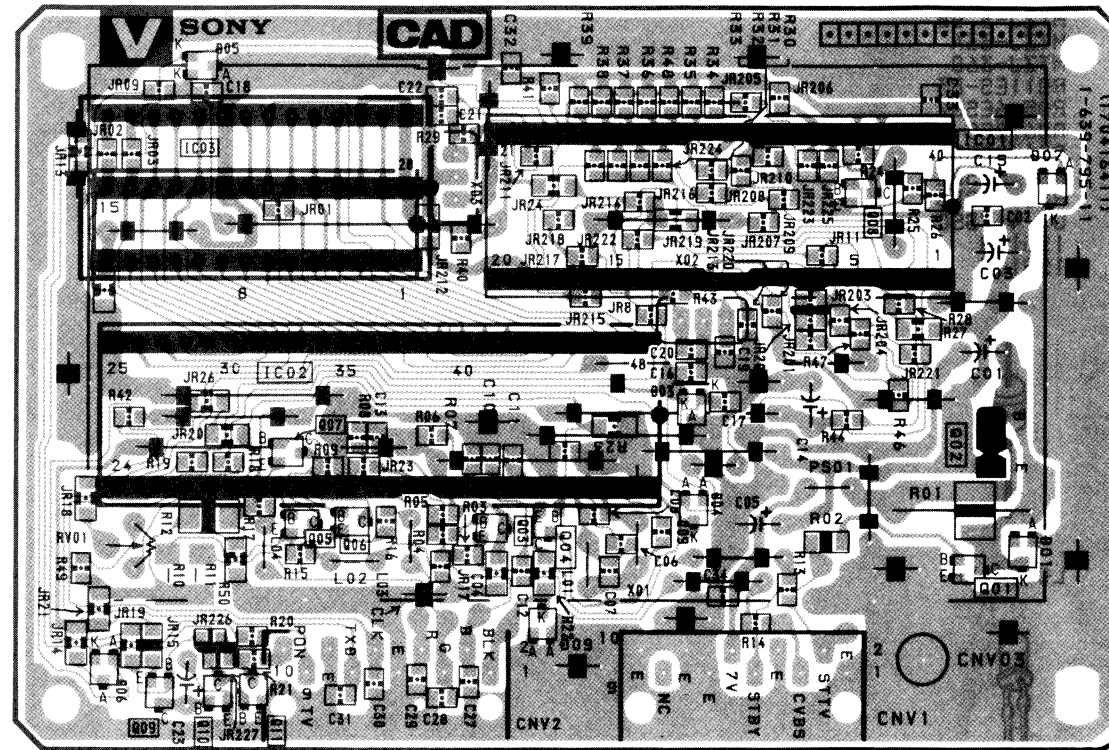
B-SS4065<AEP>-IFG

**V** [TELE TEXT]

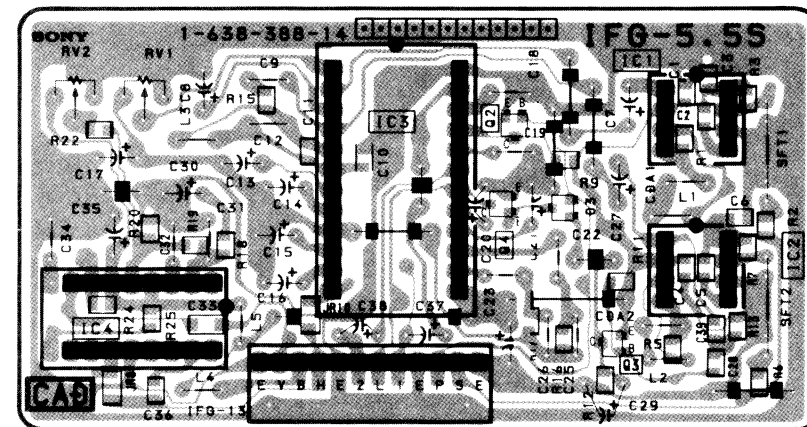
**IFG** [SIF]

**C** [R, G, B OUT]

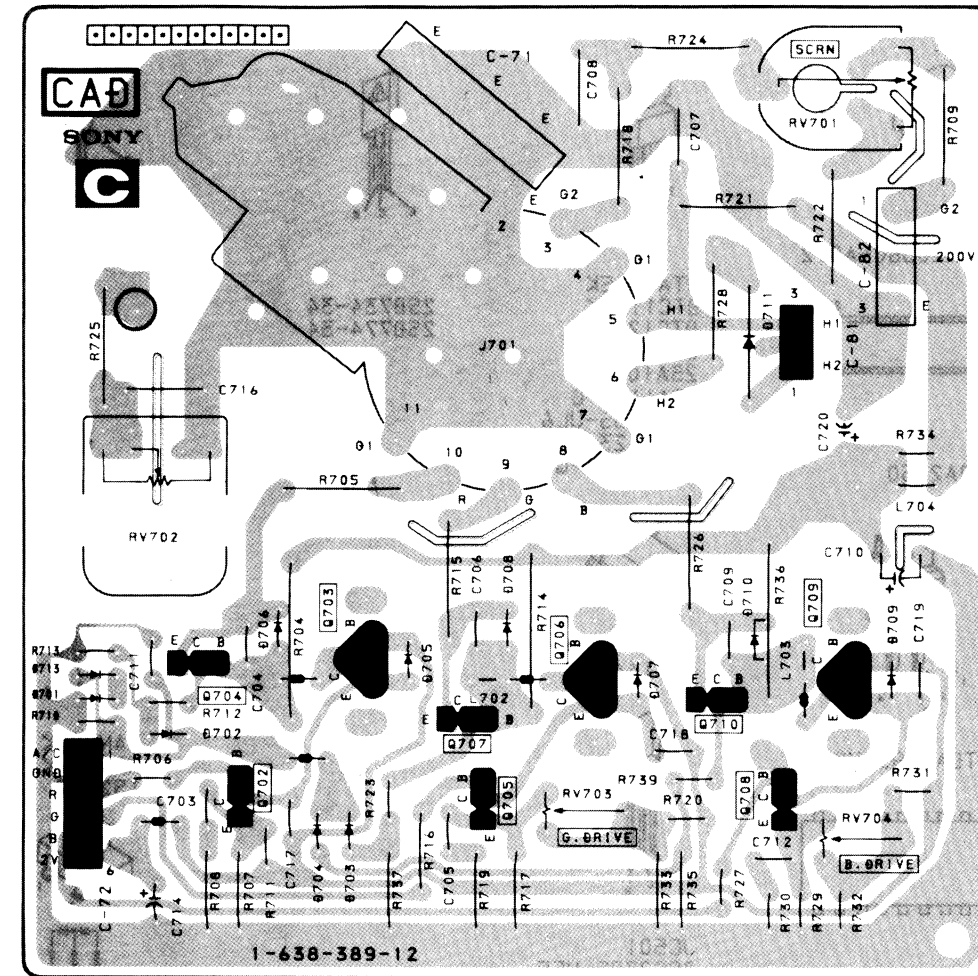
– V Board –



– IFG Board –

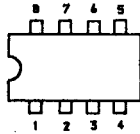


– C Board –

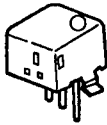


# 5-4. SEMICONDUCTORS

BA4558  
RC4558P  
SBA2546  
TBA129  
TEA2014A  
TEA2031A



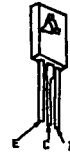
SBX1610-11



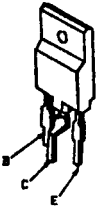
BF871



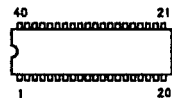
2SA1220A-P  
2SC2688-LK



25D1548-LB



SBA20560-A012



DTA144EK  
DTC114EK  
DTC124EK  
DTA144EK  
2SA1037K  
2SA1162-G  
2SB1295-UL6  
2SC1623-L5L6  
2SC2412K-QR

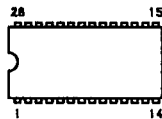
2SB734-34  
2SD774-34



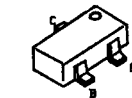
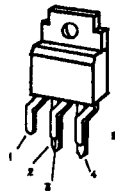
25D2096-EF



CXA1114P  
FCB61C65-70P  
MAB8461P-W208  
TDA4580-V7  
TDA4650-V4  
TDA6200  
TEA2028B



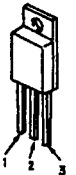
TDA2050



DTC144ES



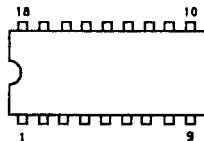
CTU-12S



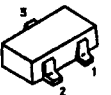
LM7812CT  
TEA7605



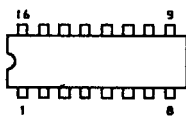
TDA2595-V9



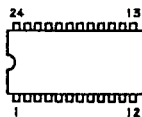
DAN202K  
MA152WK  
1S2837



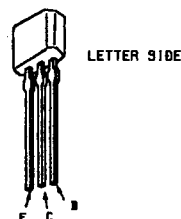
MC14051BCP  
MC14053BCP  
PCF8574  
TDA4660V2  
TDA8442-N3  
TEA2260  
MPD4053BC



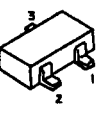
TDA6600-2



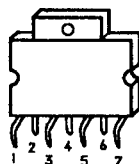
JC501  
2SC2785-HFE



DA204K  
1S5226



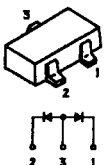
TDA8170



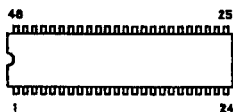
2SA1091-0  
2SD789-34



DAP202K



SAA5246P/E



ERC06-15S  
ERC25-06S  
RGP10G  
RU-3AM



MTZJ-13B  
MTZJ-15A  
MTZJ-3.9B  
MTZJ-33A  
MTZJ-36D  
R011ES-B3  
R05.6ESB2  
R06.2ES-B2  
R06.8ESB2  
R07.5ESB2  
R09.1ESB3  
UZ-4.7BSC  
1SS119  
1SS133

RGP02-17



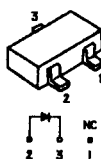
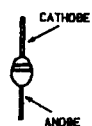
L0-201VR

ER029-08J



R03.6M-B2  
R05.6M-B2  
R06.8M-B2

GP080





## SECTION 6

### EXPLODED VIEWS

**NOTE:**

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

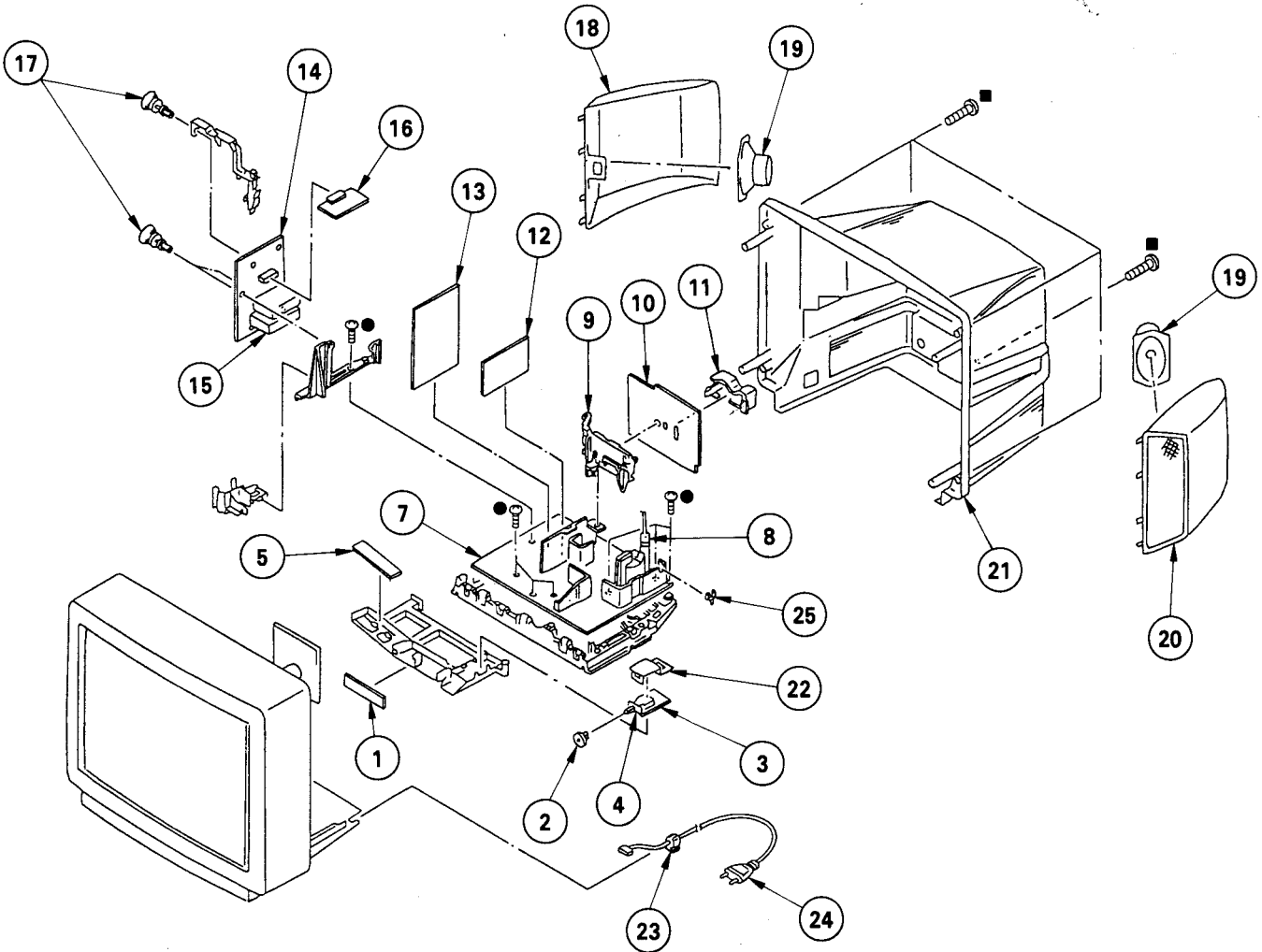
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark **▲** are critical for safety. Replace only with part number specified.

#### 6-1. CHASSIS

●: BVTP3 × 12    7-685-648-79

■: BVTP4 × 16    7-685-663-79

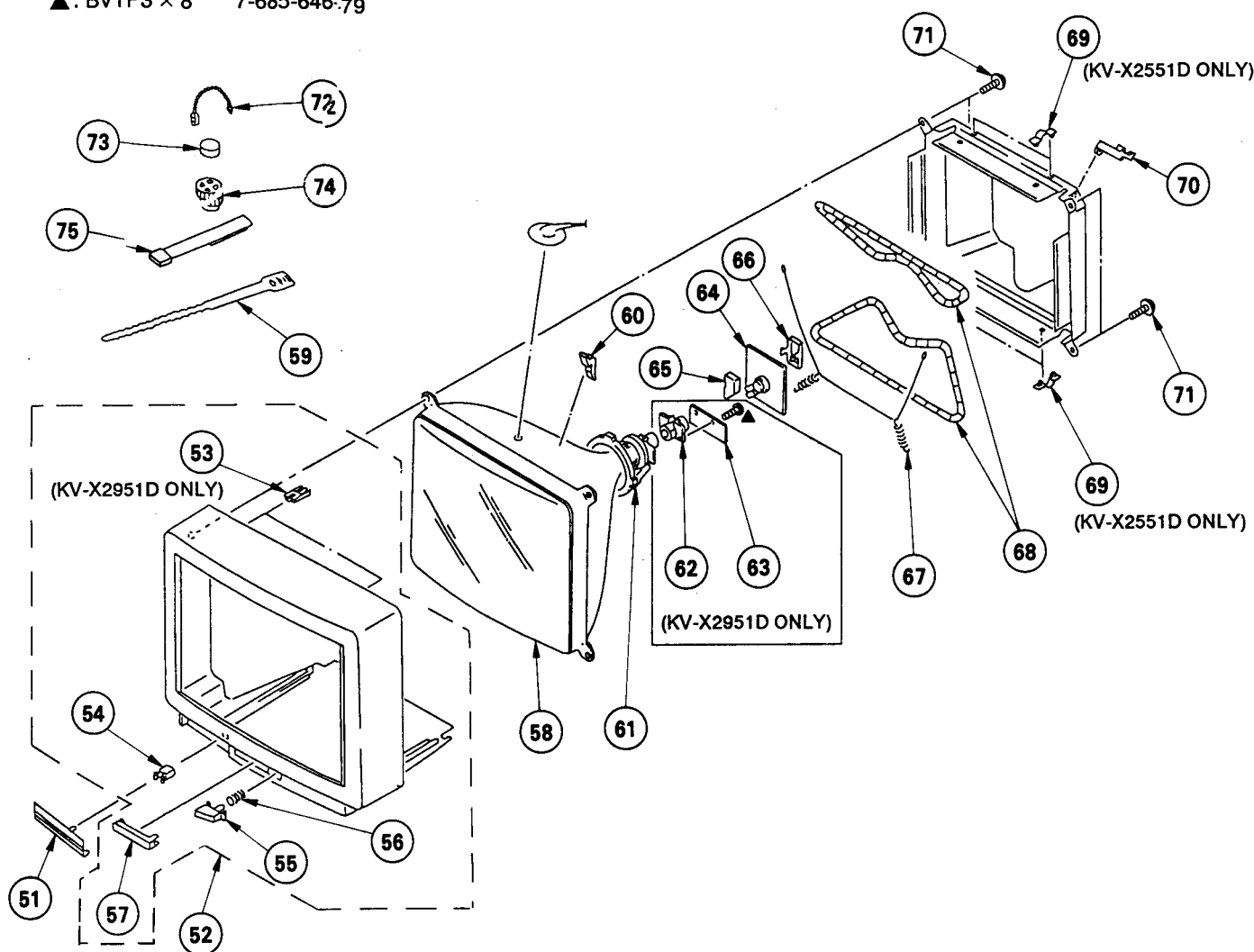


REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-392-11	H2 BOARD		13	*A-1621-033-A	B BOARD, COMPLETE (KV-X2551D ONLY)	
2	4-386-611-01	COVER, SWITCH			*A-1621-027-A	B BOARD, COMPLETE (KV-X2951D ONLY)	
3	*1-638-390-11	F BOARD		14	*A-1632-022-A	A BOARD, COMPLETE	
4	▲ 1-571-433-12	SWITCH, PUSH (AC POWER)		15	▲ 1-465-301-11	TUNER, ET (UV-816(PLL))	
5	*1-638-744-12	H1 BOARD		16	*A-1654-004-A	IFG BOARD, COMPLETE	
7	*A-1642-031-A	D BOARD, COMPLETE (KV-X2551D ONLY)		17	4-386-618-01	RIVET, T TYPE	
	*A-1642-032-A	D BOARD, COMPLETE (KV-X2951D ONLY)		18	X-4200-088-1	BAFFLE (L) ASSY, BOARD	
8	▲ 1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)		19	1-544-727-11	SPEAKER (7.5X13CM)	
9	*4-386-624-11	BRACKET, J		20	X-4200-087-1	BAFFLE (R) ASSY, BOARD	
10	*A-1651-018-A	J1 BOARD, COMPLETE (KV-X2551D ONLY)		21	4-034-786-01	COVER, REAR (KV-X2551D ONLY)	
	*A-1651-020-A	J1 BOARD, COMPLETE (KV-X2951D ONLY)			4-200-892-01	COVER, REAR (KV-X2951D ONLY)	
11	4-200-014-01	BRACKET, TERMINAL		22	4-200-274-01	COVER, POWER SWITCH (KV-X2551D ONLY)	
12	*A-1645-013-A	V BOARD, COMPLETE			4-200-757-01	COVER, POWER SWITCH (KV-X2951D ONLY)	
				23	▲ 4-389-201-03	HOLDER, AC CORD	
				24	▲ 1-590-501-11	CORD, POWER (WITH NOISE FILTER)	
				25	*3-646-071-00	HOLDER, WIRE	



## 6-2. PICTURE TUBE

▲: BVTP3 × 8 7-685-646-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-200-889-01	DOOR		63	*1-634-193-11	VM BOARD (KV-X2951D ONLY)	
52	X-4030-156-1	CABINET ASSY (WITH BEZEL ASSY) (KV-X2551D ONLY)	54-57	64	*A-1638-011-A	C BOARD, COMPLETE (KV-X2551D ONLY)	
	X-4200-089-1	CABINET ASSY (WITH BEZEL ASSY) (KV-X2951D ONLY)	53-57		*A-1638-013-A	C BOARD, COMPLETE (KV-X2951D ONLY)	
53	4-382-745-01	HOLDER, RC (KV-X2951D ONLY)		65	*4-379-167-01	COVER (MAIN), CV	
54	4-392-036-01	CATCHER, PUSH		66	*4-379-160-01	COVER (REAR LID), CV	
55	4-200-886-01	BUTTON, POWER		67	4-303-774-99	SPRING (KV-X2551D ONLY)	
56	4-329-112-21	SPRING (KV-X2551D ONLY)			4-369-318-00	SPRING, TENSION (KV-X2951D ONLY)	
57	4-329-112-51	SPRING (KV-X2951D ONLY)		68	▲ 1-460-091-11	COIL, DEGAUSS (KV-X2551D ONLY)	
58	4-200-148-01	WINDOW, ORNAMENTAL			▲ 1-426-535-11	COIL, DEGAUSSING (KV-X2951D ONLY)	
	▲ 8-733-231-05	PICTURE TUBE (A59JWC61X) (KV-X2551D ONLY)		69	*4-385-916-01	HOLDER (D) (KV-X2551D ONLY)	
	▲ 8-733-831-05	PICTURE TUBE (A68JYL61X) (KV-X2951D ONLY)		70	*4-387-284-01	HOLDER, LEAD	
59	3-701-007-00	BAND, BINDING		71	4-373-263-01	SCREW (M), PT	
60	3-704-495-01	SPACER, DY		72	4-308-870-00	CLIP, LEAD WIRE	
61	▲ 1-451-311-21	DEFLECTION YOKE (Y25FXA) (KV-X2551D ONLY)		73	1-452-032-00	MAGNET, DISK; 10MM φ	
	▲ 1-451-313-21	DEFLECTION YOKE (Y29FXA) (KV-X2951D ONLY)		74	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
62	▲ 1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308) (KV-X2951D ONLY)		75	X-4387-214-1	PERMALLOY ASSY, CORRECTION	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

# SECTION 7 ELECTRICAL PARTS LIST

B

## NOTE:

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

• Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

• All resistors are in ohms  
• F : nonflammable

When indicating parts by reference number, please include the board name.

## CAPACITORS

• MF :  $\mu$ F, PF :  $\mu$ PF

## COILS

• MMH : mH, UH :  $\mu$ H

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1621-033-A	B BOARD, COMPLETE (KV-X2551D ONLY)		C346	1-163-033-00	CERAMIC CHIP 0.022MF	50V
		*****		C347	1-124-903-11	ELECT 1MF	20% 50V
	*A-1621-027-A	B BOARD, COMPLETE (KV-X2951D ONLY)		C348	1-124-903-11	ELECT 1MF	20% 50V
		*****		C349	1-163-031-11	CERAMIC CHIP 0.01MF	50V
		<CONNECTOR>		C350	1-163-031-11	CERAMIC CHIP 0.01MF	50V
B31	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C351	1-137-102-11	FILM 0.022MF	10% 250V
B32	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C352	1-137-102-11	FILM 0.022MF	10% 250V
B33	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C353	1-163-063-00	CERAMIC CHIP 0.022MF	10% 50V
B72	*1-568-881-51	PIN, CONNECTOR 6P		C354	1-124-910-11	ELECT 47MF	20% 50V
B73	*1-568-878-51	PIN, CONNECTOR 3P (KV-X2951D ONLY)		C357	1-163-377-11	CERAMIC CHIP 100PF	5% 50V
		<CAPACITOR>		C358	1-124-917-11	ELECT 33MF	20% 50V
C301	1-137-031-11	FILM 0.22MF	10% 100V	C359	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C302	1-137-031-11	FILM 0.22MF	10% 100V	C360	1-101-004-00	CERAMIC 0.01MF	50V
C303	1-124-122-11	ELECT 100MF	20% 50V	C364	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C304	1-137-031-11	FILM 0.22MF	10% 100V	C365	1-124-910-11	ELECT 47MF	20% 50V
C305	1-124-119-00	ELECT 330MF	20% 16V	C366	1-126-103-11	ELECT 470MF	20% 16V
C306	1-124-902-00	ELECT 0.47MF	20% 50V	C367	1-101-004-00	CERAMIC 0.01MF	50V
C307	1-124-902-00	ELECT 0.47MF	20% 50V	C381	1-124-902-00	ELECT 0.47MF	20% 50V
C308	1-124-902-00	ELECT 0.47MF	20% 50V	C382	1-124-927-11	ELECT 4.7MF	20% 50V
C309	1-124-902-00	ELECT 0.47MF	20% 50V	C384	1-124-910-11	ELECT 47MF	20% 50V
C310	1-137-098-11	FILM 0.1MF	10% 100V	C385	1-124-927-11	ELECT 4.7MF	20% 50V
C311	1-137-098-11	FILM 0.1MF	10% 100V	C386	1-124-927-11	ELECT 4.7MF	20% 50V
C312	1-124-902-00	ELECT 0.47MF	20% 50V				(KV-X2951D ONLY)
C313	1-124-902-00	ELECT 0.47MF	20% 50V	C387	1-137-027-11	FILM 0.82MF	10% 63V
C314	1-124-902-00	ELECT 0.47MF	20% 50V	C388	1-137-098-11	FILM 0.1MF	10% 100V
C315	1-124-903-11	ELECT 1MF	20% 50V	C401	1-101-361-00	CERAMIC 150PF	5% 50V
C316	1-137-098-11	FILM 0.1MF	10% 100V	C402	1-163-197-00	CERAMIC CHIP 470PF	5% 50V
C317	1-124-910-11	ELECT 47MF	20% 50V	C403	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C318	1-137-098-11	FILM 0.1MF	10% 100V	C1311	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C321	1-163-117-00	CERAMIC CHIP 100PF	5% 50V				(KV-X2551D ONLY)
		(KV-X2551D ONLY)			1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C323	1-102-947-00	CERAMIC 10PF	0.5PF 50V				(KV-X2951D ONLY)
C327	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C1312	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C330	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C1313	1-102-953-00	CERAMIC 18PF	5% 50V
C331	1-137-098-11	FILM 0.1MF	10% 100V				<TRIMMER>
C332	1-126-103-11	ELECT 470MF	20% 16V	CT331	1-141-418-11	CAP, ADJ	
C333	1-137-102-11	FILM 0.022MF	10% 250V	CT332	1-141-418-11	CAP, ADJ	
C334	1-163-237-11	CERAMIC CHIP 27PF	5% 50V				<DIODE>
C335	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	D301	8-719-911-19	DIODE 1SS119	
C336	1-102-816-00	CERAMIC 120PF	5% 50V	D302	8-719-911-19	DIODE 1SS119	
C337	1-101-004-00	CERAMIC 0.01MF	50V	D303	8-719-911-19	DIODE 1SS119	
C338	1-137-098-11	FILM 0.1MF	10% 100V	D304	8-719-911-19	DIODE 1SS119	
C339	1-137-098-11	FILM 0.1MF	10% 100V	D305	8-719-911-19	DIODE 1SS119	
C341	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	D307	8-719-110-23	DIODE RD11ES-B3	
C343	1-137-094-11	FILM 0.047MF	10% 100V	D309	8-719-911-19	DIODE 1SS119	
C344	1-137-033-11	FILM 0.33MF	10% 100V	D310	8-719-110-23	DIODE RD11ES-B3	
C345	1-163-123-00	CERAMIC CHIP 180PF	5% 50V	D311	8-719-110-23	DIODE RD11ES-B3	
				D312	8-719-110-23	DIODE RD11ES-B3	

**B**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D313	8-719-911-19	DIODE 1SS119		JR385	1-216-206-00	METAL GLAZE	2.2K 5% 1/8W
D314	8-719-911-19	DIODE 1SS119		JR387	1-216-295-00	METAL GLAZE	0 5% 1/10W (KV-X2951D ONLY)
D315	8-719-911-19	DIODE 1SS119					
D316	8-719-911-19	DIODE 1SS119		JR390	1-216-295-00	METAL GLAZE	0 5% 1/10W (KV-X2551D ONLY)
D317	8-719-911-19	DIODE 1SS119					
D318	8-719-911-19	DIODE 1SS119		R301	1-249-409-11	CARBON	220 5% 1/4W
D319	8-719-911-19	DIODE 1SS119		R302	1-249-409-11	CARBON	220 5% 1/4W
D320	8-719-911-19	DIODE 1SS119		R303	1-249-409-11	CARBON	220 5% 1/4W
D331	8-719-911-19	DIODE 1SS119		R304	1-249-409-11	CARBON	220 5% 1/4W
D332	8-719-911-19	DIODE 1SS119		R305	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
D333	8-719-911-19	DIODE 1SS119		R306	1-216-295-00	METAL GLAZE	0 5% 1/10W (KV-X2951D ONLY)
D350	8-719-109-89	DIODE RD5.6ES-B2		R307	1-216-097-00	METAL GLAZE	100K 5% 1/10W
<DELAY LINE>				R308	1-216-296-00	METAL GLAZE	0 5% 1/8W
DL332	1-236-062-11	MODULE, Y DELAY LINE		R309	1-216-025-00	METAL GLAZE	100 5% 1/10W
DL401	1-415-613-11	DELAY LINE, Y		R310	1-216-025-00	METAL GLAZE	100 5% 1/10W
<IC>				R311	1-216-025-00	METAL GLAZE	100 5% 1/10W
IC301	8-759-517-43	IC TDA4580-V7		R312	1-249-409-11	CARBON	220 5% 1/4W
IC302	8-759-980-60	IC TDA8442N3		R313	1-216-081-00	METAL GLAZE	22K 5% 1/10W
IC303	8-759-140-53	IC UPD4053BC		R314	1-216-182-00	METAL GLAZE	220 5% 1/8W
IC331	8-759-521-22	IC TDA4650/V4		R315	1-216-031-00	METAL GLAZE	180 5% 1/10W
IC332	8-759-505-39	IC TDA4660V2		R316	1-216-031-00	METAL GLAZE	180 5% 1/10W
IC1301	1-235-534-11	CONTROL MODULE, PICTURE (KV-X2951D ONLY)		R317	1-216-031-00	METAL GLAZE	180 5% 1/10W
<COIL>				R318	1-249-429-11	CARBON	10K 5% 1/4W
L301	1-410-868-11	INDUCTOR	4.7UH	R319	1-249-409-11	CARBON	220 5% 1/4W
L302	1-410-868-11	INDUCTOR	4.7UH	R320	1-216-198-00	METAL GLAZE	1K 5% 1/8W
L303	1-408-406-00	INDUCTOR	5.6UH (KV-X2551D ONLY)	R321	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
L331	1-404-554-11	COIL		R322	1-216-049-00	METAL GLAZE	1K 5% 1/10W (KV-X2551D ONLY)
L336	1-404-554-11	COIL			1-216-055-00	METAL GLAZE	1.8K 5% 1/10W (KV-X2951D ONLY)
L338	1-408-409-00	INDUCTOR	10UH	R328	1-216-311-00	METAL GLAZE	6.8 5% 1/10W
L1301	1-408-425-00	INDUCTOR	220UH	R329	1-216-311-00	METAL GLAZE	6.8 5% 1/10W
L1302	1-408-419-00	INDUCTOR	68UH	R330	1-216-311-00	METAL GLAZE	6.8 5% 1/10W
<TRANSISTOR>				R331	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (KV-X2551D ONLY)		R332	1-216-184-00	METAL GLAZE	270 5% 1/8W
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R333	1-216-121-00	METAL GLAZE	1M 5% 1/10W
Q305	8-729-901-06	TRANSISTOR DTA144EK		R334	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q306	8-729-119-78	TRANSISTOR 2SC2785-HFE		R335	1-247-852-11	CARBON	7.5K 5% 1/4W
Q311	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R336	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
Q312	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R337	1-216-184-00	METAL GLAZE	270 5% 1/8W
Q313	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R338	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q316	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R339	1-216-033-00	METAL GLAZE	220 5% 1/10W
Q330	8-729-216-22	TRANSISTOR 2SA1162-G		R341	1-216-031-00	METAL GLAZE	180 5% 1/10W
Q331	8-729-901-00	TRANSISTOR DTC124EK		R342	1-216-041-00	METAL GLAZE	470 5% 1/10W
Q332	8-729-216-22	TRANSISTOR 2SA1162-G		R344	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q333	8-729-216-22	TRANSISTOR 2SA1162-G		R346	1-216-202-00	METAL GLAZE	1.5K 5% 1/8W
Q334	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R347	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q335	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R348	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q381	8-729-901-00	TRANSISTOR DTC124EK		R349	1-216-045-00	METAL GLAZE	680 5% 1/10W (KV-X2551D ONLY)
Q382	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R350	1-216-045-00	METAL GLAZE	680 5% 1/10W (KV-X2551D ONLY)
Q1301	8-729-901-00	TRANSISTOR DTC124EK		R351	1-216-033-00	METAL GLAZE	220 5% 1/10W (KV-X2551D ONLY)
Q1305	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (KV-X2951D ONLY)		R354	1-216-033-00	METAL GLAZE	220 5% 1/10W
Q1306	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R355	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
<RESISTOR>				R356	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
JR380	1-216-295-00	METAL GLAZE	0 5% 1/10W (KV-X2951D ONLY)	R357	1-216-033-00	METAL GLAZE	220 5% 1/10W (KV-X2951D ONLY)
				R358	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R359	1-216-089-00	METAL GLAZE	47K 5% 1/10W
				R360	1-216-089-00	METAL GLAZE	47K 5% 1/10W
				R361	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
				R363	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
				R364	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W

The components identified by shading and mark **A** are critical for safety.  
Replace only with part number specified.

**B** **F** **A**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R365	1-216-047-00	METAL GLAZE	820 5% 1/10W	X331	1-567-307-11	OSCILLATOR, CRYSTAL	
R366	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	X332	1-567-131-00	OSCILLATOR, CRYSTAL	
R367	1-216-033-00	METAL GLAZE	220 5% 1/10W	*****			
R370	1-216-033-00	METAL GLAZE	220 5% 1/10W	*1-638-390-11	F BOARD		
R372	1-216-023-00	METAL GLAZE	82 5% 1/10W		*****		
R376	1-249-429-11	CARBON	10K 5% 1/4W	*4-341-752-01	EYELET		
R377	1-216-037-00	METAL GLAZE	330 5% 1/10W				
	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	<CONNECTOR>			
			(KV-X2551D ONLY)	F61	*1-580-690-11	PIN, CONNECTOR (PC BOARD) 4P	
			(KV-X2951D ONLY)	F62	*1-580-690-11	PIN, CONNECTOR (PC BOARD) 4P	
R378	1-216-097-00	METAL GLAZE	100K 5% 1/10W	<FUSE>			
R379	1-216-089-00	METAL GLAZE	47K 5% 1/10W	F1601A	1-576-231-21	FUSE (H.B.C.) 4A/250V	
R380	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W		1-533-230-11	HOLDER, FUSE; F1601	
R381	1-216-093-00	METAL GLAZE	68K 5% 1/10W	<SWITCH>			
R382	1-216-105-00	METAL GLAZE	220K 5% 1/10W	S1701A	1-571-433-12	SWITCH, PUSH (AC POWER)	
	1-216-103-00	METAL GLAZE	180K 5% 1/10W	*****			
			(KV-X2951D ONLY)	*A-1632-022-A	A BOARD, COMPLETE		
R383	1-216-115-00	METAL GLAZE	560K 5% 1/10W		*****		
R384	1-216-029-00	METAL GLAZE	150 5% 1/10W	<CONNECTOR>			
R385	1-216-085-00	METAL GLAZE	33K 5% 1/10W	A11	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
R386	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	A12	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
			(KV-X2951D ONLY)	A13	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P	
R387	1-216-049-00	METAL GLAZE	1K 5% 1/10W	A16	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
R388	1-216-049-00	METAL GLAZE	1K 5% 1/10W	A17	*1-564-886-11	PLUG, CONNECTOR 9P	
R389	1-216-101-00	METAL GLAZE	150K 5% 1/10W	A19	*1-564-881-11	PLUG, CONNECTOR 4P	
R390	1-216-033-00	METAL GLAZE	220 5% 1/10W	<CAPACITOR>			
			(KV-X2551D ONLY)	C101	1-126-233-11	ELECT 22MF 20% 50V	
	1-216-025-00	METAL GLAZE	100 5% 1/10W	C102	1-126-103-11	ELECT 470MF 20% 16V	
			(KV-X2951D ONLY)	C104	1-124-910-11	ELECT 47MF 20% 50V	
R392	1-216-021-00	METAL GLAZE	68 5% 1/10W	C106	1-126-233-11	ELECT 22MF 20% 50V	
R393	1-216-021-00	METAL GLAZE	68 5% 1/10W	C108	1-136-165-00	FILM 0.1MF 5% 50V	
R394	1-216-021-00	METAL GLAZE	68 5% 1/10W	C109	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
R395	1-216-214-00	METAL GLAZE	4.7K 5% 1/8W	C111	1-124-925-11	ELECT 2.2MF 20% 50V	
R396	1-216-041-00	METAL GLAZE	470 5% 1/10W	C115	1-124-925-11	ELECT 2.2MF 20% 50V	
R398	1-216-081-00	METAL GLAZE	22K 5% 1/10W	C127	1-124-122-11	ELECT 100MF 20% 50V	
R401	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	C128	1-124-910-11	ELECT 47MF 20% 50V	
R402	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	C129	1-124-910-11	ELECT 47MF 20% 50V	
R403	1-216-025-00	METAL GLAZE	100 5% 1/10W	C138	1-136-165-00	FILM 0.1MF 5% 50V	
R404	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	C171	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
R405	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C172	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
R406	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	C177	1-102-074-00	CERAMIC 0.001MF 10% 50V	
R407	1-216-047-00	METAL GLAZE	820 5% 1/10W	C181	1-101-004-00	CERAMIC 0.01MF 50V	
R410	1-216-184-00	METAL GLAZE	270 5% 1/8W	<IC>			
R412	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	IC103	8-759-979-62	IC PCF8574	
R1301	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	<COIL>			
R1302	1-216-089-00	METAL GLAZE	47K 5% 1/10W	L100	1-410-683-31	INDUCTOR 560UH	
			(KV-X2951D ONLY)	L101	1-408-225-00	INDUCTOR 3.3UH	
R1303	1-216-089-00	METAL GLAZE	47K 5% 1/10W	<CRYSTAL>			
R1304	1-216-097-00	METAL GLAZE	100K 5% 1/10W				
R1305	1-216-001-00	METAL GLAZE	10 5% 1/10W				
R1307	1-216-037-00	METAL GLAZE	330 5% 1/10W				
R1308	1-216-295-00	METAL GLAZE	0 5% 1/10W				
			(KV-X2551D ONLY)				
	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
			(KV-X2951D ONLY)				
R1309	1-216-037-00	METAL GLAZE	330 5% 1/10W				
<VARIABLE RESISTOR>							
RV331	1-238-012-11	RES. ADJ, CARBON 1K					




The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
L102	1-408-413-00	INDUCTOR	22UH	<CONNECTOR>			
L107	1-408-397-00	INDUCTOR	1UH	C71	*1-506-371-00	PIN, CONNECTOR 2P	
<TRANSISTOR>				C72	*1-568-881-51	PIN, CONNECTOR 6P	
Q113	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C81	*1-568-878-51	PIN, CONNECTOR 3P	
Q114	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
Q115	8-729-120-28	TRANSISTOR 2SC1623-L5L6		<CAPACITOR>			
Q116	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C703	1-102-980-00	CERAMIC 270PF	5% 50V (KV-X2551D ONLY)
Q125	8-729-900-89	TRANSISTOR DTC144ES			1-102-820-00	CERAMIC 330PF	5% 50V (KV-X2951D ONLY)
Q126	8-729-901-06	TRANSISTOR DTA144EK		C704	1-102-116-00	CERAMIC 680PF	10% 50V
Q181	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C705	1-102-978-00	CERAMIC 220PF	5% 50V (KV-X2551D ONLY)
<RESISTOR>					1-102-980-00	CERAMIC 270PF	5% 50V (KV-X2951D ONLY)
JR230	1-216-295-00	METAL GLAZE	0 5% 1/10W	C706	1-102-116-00	CERAMIC 680PF	10% 50V
JR252	1-216-296-00	METAL GLAZE	0 5% 1/8W	C707	1-162-116-00	CERAMIC 680PF	10% 2KV
JR253	1-216-296-00	METAL GLAZE	0 5% 1/8W	C708	1-162-114-00	CERAMIC 0.0047MF	2KV
JR255	1-216-296-00	METAL GLAZE	0 5% 1/8W	C709	1-102-116-00	CERAMIC 680PF	10% 50V
JR256	1-216-296-00	METAL GLAZE	0 5% 1/8W	C710	1-123-947-00	ELECT 10MF	20% 250V
JR257	1-216-296-00	METAL GLAZE	0 5% 1/8W	C711	1-101-880-00	CERAMIC 47PF	5% 50V
JR258	1-216-296-00	METAL GLAZE	0 5% 1/8W	C712	1-102-980-00	CERAMIC 270PF	5% 50V (KV-X2551D ONLY)
R101	1-216-025-00	METAL GLAZE	100 5% 1/10W		1-102-820-00	CERAMIC 330PF	5% 50V (KV-X2951D ONLY)
R105	1-216-079-00	METAL GLAZE	18K 5% 1/10W	C714	1-124-360-00	ELECT 1000MF	20% 16V
R107	1-216-081-00	METAL GLAZE	22K 5% 1/10W	C716	1-162-622-11	CERAMIC 330PF	10% 400V
R108	1-216-079-00	METAL GLAZE	18K 5% 1/10W	C717	1-102-114-00	CERAMIC 470PF	10% 50V
R110	1-249-429-11	CARBON	10K 5% 1/4W	C718	1-102-114-00	CERAMIC 470PF	10% 50V
R111	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C719	1-102-114-00	CERAMIC 470PF	10% 50V
R116	1-216-023-00	METAL GLAZE	82 5% 1/10W	<DIODE>			
R118	1-216-085-00	METAL GLAZE	33K 5% 1/10W	D701	8-719-110-14	DIODE RD9.1ES-B3	
R128	1-216-027-00	METAL GLAZE	120 5% 1/10W	D702	8-719-911-19	DIODE 1SS119	
R129	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	D703	8-719-911-19	DIODE 1SS119	
R130	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	D704	8-719-911-19	DIODE 1SS119	
R157	1-216-049-00	METAL GLAZE	1K 5% 1/10W	D705	8-719-911-19	DIODE 1SS119	
R158	1-249-409-11	CARBON	220 5% 1/4W	D706	8-719-911-19	DIODE 1SS119	
R159	1-249-409-11	CARBON	220 5% 1/4W	D707	8-719-911-19	DIODE 1SS119	
R161	1-216-089-00	METAL GLAZE	47K 5% 1/10W	D708	8-719-911-19	DIODE 1SS119	
R162	1-216-095-00	METAL GLAZE	82K 5% 1/10W	D709	8-719-911-19	DIODE 1SS119	
R163	1-216-095-00	METAL GLAZE	82K 5% 1/10W	D710	8-719-911-19	DIODE 1SS119	
R164	1-216-075-00	METAL GLAZE	12K 5% 1/10W	D711	8-719-300-33	DIODE RU-3AM	
R165	1-216-075-00	METAL GLAZE	12K 5% 1/10W	D713	8-719-911-19	DIODE 1SS119	
R167	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	<JACK>			
R168	1-216-089-00	METAL GLAZE	47K 5% 1/10W	J701	1-526-990-11	SOCKET, PICTURE TUBE	
R169	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	<COIL>			
R181	1-216-049-00	METAL GLAZE	1K 5% 1/10W	L704	1-408-415-00	INDUCTOR 33UH	
R182	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	<TRANSISTOR>			
R193	1-216-073-00	METAL GLAZE	10K 5% 1/10W	Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R194	1-216-017-00	METAL GLAZE	47 5% 1/10W	Q703	8-729-906-70	TRANSISTOR BF871	
R195	1-216-017-00	METAL GLAZE	47 5% 1/10W	Q704	8-729-200-17	TRANSISTOR 2SA1091-0	
R196	1-216-113-00	METAL GLAZE	470K 5% 1/10W	Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
<TUNER>				Q706	8-729-906-70	TRANSISTOR BF871	
TUN101A 1-465-301-11 TUNER, ET (UV-816(PLL))				Q707	8-729-200-17	TRANSISTOR 2SA1091-0	
<IF BLOCK>				Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
VIF101	1-466-154-11	IF BLOCK (IFG-389S)		Q709	8-729-906-70	TRANSISTOR BF871	
*****				Q710	8-729-200-17	TRANSISTOR 2SA1091-0	
*A-1638-011-A	C BOARD, COMPLETE (KV-X2551D ONLY)						
	*****						
*A-1638-013-A	C BOARD, COMPLETE (KV-X2951D ONLY)						
	*****						
*4-379-160-01	COVER (REAR LID), CV						
*4-379-167-01	COVER (MAIN), CV						



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<RESISTOR>				C008	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R704	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C009	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R705	1-202-824-00	SOLID	3.3K 10% 1/2W	C010	1-124-120-11	ELECT 220MF	20% 16V
R706	1-249-409-11	CARBON	220 5% 1/4W	C011	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R707	1-249-412-11	CARBON	390 5% 1/4W	C013	1-137-098-11	FILM 0.1MF	10% 100V
R708	1-249-401-11	CARBON	47 5% 1/4W	C014	1-137-098-11	FILM 0.1MF	10% 100V
R709	1-202-844-00	SOLID	330K 10% 1/2W	C015	1-124-902-00	ELECT 0.47MF	20% 50V
R710	1-215-465-00	METAL	68K 1% 1/4W	C016	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R711	1-249-426-11	CARBON	5.6K 5% 1/4W	C017	1-137-098-11	FILM 0.1MF	10% 100V
R712	1-249-417-11	CARBON	1K 5% 1/4W	C018	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
R713	1-215-471-00	METAL	120K 1% 1/4W	C019	1-137-094-11	FILM 0.047MF	10% 100V
R714	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C021	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R715	1-202-824-00	SOLID	3.3K 10% 1/2W	C023	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R716	1-249-409-11	CARBON	220 5% 1/4W	C024	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R717	1-249-415-11	CARBON	680 5% 1/4W	C027	1-124-910-11	ELECT 47MF	20% 50V
R718	1-202-814-11	SOLID	33K 10% 1/2W	C030	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R719	1-249-401-11	CARBON	47 5% 1/4W	C031	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R720	1-249-423-11	CARBON	3.3K 5% 1/4W	C032	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R721	1-202-842-11	SOLID	220K 10% 1/2W	C033	1-163-181-00	CERAMIC CHIP 100PF	5% 50V
R722	1-202-848-00	SOLID	680K 10% 1/2W	C034	1-124-907-11	ELECT 10MF	20% 50V
R723	1-249-417-11	CARBON	1K 5% 1/4W	C251	1-124-903-11	ELECT 1MF	20% 50V
R724	1-202-846-00	SOLID	470K 10% 1/2W	C252	1-126-233-11	ELECT 22MF	20% 50V
R725	1-202-838-00	SOLID	100K 10% 1/2W	C253	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R726	1-202-824-00	SOLID	3.3K 10% 1/2W	C254	1-137-098-11	FILM 0.1MF	10% 100V
R727	1-249-409-11	CARBON	220 5% 1/4W	C255	1-124-636-00	ELECT 3300MF	20% 25V
R728	1-216-347-11	METAL OXIDE	0.68 5% 1W F	C261	1-124-903-11	ELECT 1MF	20% 50V
R729	1-249-416-11	CARBON	820 5% 1/4W	C262	1-126-233-11	ELECT 22MF	20% 50V
R730	1-249-401-11	CARBON	47 5% 1/4W	C263	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R731	1-249-423-11	CARBON	3.3K 5% 1/4W	C264	1-137-098-11	FILM 0.1MF	10% 100V
R732	1-249-415-11	CARBON	680 5% 1/4W	C265	1-124-564-11	ELECT 4700MF	20% 25V
R733	1-249-415-11	CARBON	680 5% 1/4W	C270	1-137-035-11	FILM 0.47MF	10% 100V
R734	1-249-405-11	CARBON	100 5% 1/4W	C274	1-137-035-11	FILM 0.47MF	10% 100V
R735	1-215-493-00	METAL	1M 1% 1/4W	C501	1-124-927-11	ELECT 4.7MF	20% 50V
R736	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C502	1-124-927-11	ELECT 4.7MF	20% 50V
R737	1-215-491-00	METAL	820K 1% 1/4W	C503	1-137-049-11	FILM 0.015MF	10% 400V
			(KV-X2551D ONLY)	C504	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
	1-215-485-00	METAL	470K 1% 1/4W	C505	1-108-794-11	MYLAR 0.0015MF	5% 50V
			(KV-X2951D ONLY)	C506	1-137-102-11	FILM 0.022MF	10% 250V
R739	1-249-417-11	CARBON	1K 5% 1/4W	C507	1-137-033-11	FILM 0.33MF	10% 100V
				C508	1-137-102-11	FILM 0.022MF	10% 250V
				C509	1-137-098-11	FILM 0.1MF	10% 100V
<VARIABLE RESISTOR>				C510	1-161-959-00	CERAMIC 22PF	10% 500V
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C511	1-108-686-11	MYLAR 0.0033MF	10% 100V
RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M		C512	1-137-098-11	FILM 0.1MF	10% 100V
RV703	1-237-749-11	RES, ADJ, CARBON 2200		C513	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
RV704	1-237-749-11	RES, ADJ, CARBON 2200		C514	1-137-031-11	FILM 0.22MF	10% 100V
*****				C515	1-124-903-11	ELECT 1MF	20% 50V
*A-1642-031-A	D BOARD, COMPLETE (KV-X2551D ONLY)			C516	1-108-680-11	MYLAR 0.001MF	10% 100V
	*****			C517	1-124-252-00	ELECT 0.33MF	20% 50V
*A-1642-032-A	D BOARD, COMPLETE (KV-X2951D ONLY)			C518	1-124-902-00	ELECT 0.47MF	20% 50V
	*****			C519	1-136-173-00	FILM 0.47MF	5% 50V
	4-200-001-01	HOLDER, IC			1-136-171-00	FILM 0.33MF	(KV-X2551D ONLY) 5% 50V
	4-201-023-01	SPACER, INSULATING					(KV-X2951D ONLY)
*4-341-751-01	EYELET			C520	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
*4-341-752-01	EYELET			C521	1-137-098-11	FILM 0.1MF	10% 100V
*4-368-683-01	SPRING			C522	1-124-122-11	ELECT 100MF	20% 50V
<CAPACITOR>				C523	1-108-680-11	MYLAR 0.001MF	10% 100V
C002	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V	C524	1-108-798-11	MYLAR 0.0033MF	5% 50V
C003	1-124-925-11	ELECT 2.2MF	20% 50V	C525	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C004	1-124-120-11	ELECT 220MF	20% 16V	C526	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C005	1-124-903-11	ELECT 1MF	20% 50V		1-163-101-00	CERAMIC CHIP 22PF	(KV-X2551D ONLY) 5% 50V
							(KV-X2951D ONLY)

The components identified by shading and mark  are critical for safety.  
Replace only with part number specified.

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The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

D

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D511	8-719-911-55	DIODE U05G		L801	1-459-087-00	COIL,HCC DUST CORE 3.9MMH (KV-X2951D ONLY)	
D512	8-719-911-55	DIODE U05G		L803	1-459-104-00	COIL, WITH CORE	
D513	8-719-010-34	DIODE UZ-4.7BSC		L804	1-408-239-00	INDUCTOR 4.7MMH	
D514	8-719-911-19	DIODE ISS119 (KV-X2951D ONLY)		L805 $\Delta$	1-459-755-12	COIL, HORIZONTAL LINEARITY (KV-X2551D ONLY)	
D515	8-719-911-19	DIODE ISS119 (KV-X2951D ONLY)		$\Delta$	1-459-907-22	COIL, HORIZONTAL LINEARITY (KV-X2951D ONLY)	
D601 $\Delta$	8-719-510-63	DIODE D4SB60L-F		L806	1-459-111-00	COIL, DRAM CORE (CD1) (KV-X2551D ONLY)	
D602	8-719-300-33	DIODE RU-3AM		1-459-087-00	COIL,HCC DUST CORE 3.9MMH (KV-X2951D ONLY)		
D603	8-719-911-55	DIODE U05G		L809	1-420-872-00	COIL, AIR CORE	
D604	8-719-911-55	DIODE U05G		L810 $\Delta$	1-421-982-12	PNC (KV-X2551D ONLY)	
D605	8-719-911-55	DIODE U05G		$\Delta$	1-421-794-51	TRANSFORMER, FERRITE (PMT) (KV-X2951D ONLY)	
D606	8-719-300-33	DIODE RU-3AM		<TRANSFORMER>			
D607	8-719-300-33	DIODE RU-3AM		LF1601 $\Delta$	1-421-866-12	LFT	
D608	8-719-300-33	DIODE RU-3AM		LF1602 $\Delta$	1-421-776-21	LFT	
D609	8-719-982-24	DIODE MTZJ-33A		LF1603 $\Delta$	1-421-862-11	LFT	
D610	8-719-300-59	DIODE CTU-12S		T601 $\Delta$	1-450-038-11	S.R.T (KV-X2551D ONLY)	
D611	8-719-900-26	DIODE ERD29-08J		$\Delta$	1-450-037-11	S.R.T (KV-X2951D ONLY)	
D612	8-719-300-59	DIODE CTU-12S		T602 $\Delta$	1-424-277-11	TRANSFORMER, TRIGGER PULSE	
D613	8-719-979-85	DIODE EGP20G		T801 $\Delta$	1-437-090-21	HDT	
D614	8-719-979-85	DIODE EGP20G		T802 $\Delta$	1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)	
D616	8-719-921-54	DIODE MTZJ-6.2B		<IC LINK>			
D617	8-719-911-19	DIODE ISS119		PS601 $\Delta$	1-532-984-91	LINK, IC (ICP-N50) 2A	
D618	8-719-109-89	DIODE RD5.6ES-B2		PS602 $\Delta$	1-532-984-91	LINK, IC (ICP-N50) 2A	
D619	8-719-982-24	DIODE MTZJ-33A		PS603 $\Delta$	1-532-679-91	LINK, IC (ICP-N15) 0.6A	
D620	8-719-800-76	DIODE ISS226		PS604 $\Delta$	1-532-984-91	LINK, IC (ICP-N50) 2A	
D621	8-719-982-24	DIODE MTZJ-33A		<TRANSISTOR>			
D622	8-719-911-19	DIODE ISS119		Q001	8-729-901-01	TRANSISTOR DTC144EK	
D623	8-719-911-19	DIODE ISS119		Q002	8-729-901-01	TRANSISTOR DTC144EK	
D624	8-719-911-19	DIODE ISS119		Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
D630	8-719-921-91	DIODE MTZJ-15A		Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
D801	8-719-300-33	DIODE RU-3AM		Q005	8-729-901-01	TRANSISTOR DTC144EK	
D802	8-719-300-33	DIODE RU-3AM		Q006	8-729-901-01	TRANSISTOR DTC144EK	
D803	8-719-976-64	DIODE RGP02-17		Q007	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D804	8-719-911-55	DIODE U05G		Q008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D805	8-719-911-55	DIODE U05G		Q009	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D806	8-719-945-80	DIODE ERC06-15S		Q010	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D807	8-719-945-80	DIODE ERC06-15S		Q251	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D808	8-719-900-26	DIODE ERD29-08J		Q261	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
<IC>				Q271	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC001	8-759-047-60	IC SDA20560-A012		Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
IC002	8-759-000-47	IC MC14051BCP		Q505	8-729-140-96	TRANSISTOR 2SD774-34	
IC003	8-759-945-58	IC RC4558P		Q506	8-729-140-97	TRANSISTOR 2SB734-34	
IC005	8-759-748-56	IC SDA2546		Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
IC251	8-759-988-94	IC TDA2050		Q598	8-729-216-22	TRANSISTOR 2SA1162-G	
IC261	4-812-134-00	RIVET NYLON, 3.5; IC251		Q601	8-729-122-03	TRANSISTOR 2SA1220A-P	
	8-759-988-94	IC TDA2050		Q602	8-729-209-02	TRANSISTOR 2SD1548-LB	
	4-812-134-00	RIVET NYLON, 3.5; IC261		Q603	8-729-122-03	TRANSISTOR 2SA1220A-P	
IC501	8-759-970-73	IC TEA2028B		Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
IC502	8-759-944-57	IC TDA8170		Q605	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC601	8-759-988-95	IC TEA2260		Q606	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC604	8-759-510-52	IC TEA7605		Q607	8-729-920-92	TRANSISTOR 2SD2096-EF	
IC608	8-759-929-62	IC LM7812CT		Q608	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
<COIL>				Q609	8-729-320-62	TRANSISTOR 2SD789-34	
L501	1-408-225-00	INDUCTOR 3.3UH		Q801	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L601	1-420-872-00	COIL, AIR CORE					
L602	1-410-396-41	FERRITE BEAD INDUCTOR					
L603	1-410-396-41	FERRITE BEAD INDUCTOR					
L604	1-410-671-31	INDUCTOR 47UH					
L605	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)					
L606	1-412-529-11	INDUCTOR 22UH					
L607	1-410-671-31	INDUCTOR 47UH					



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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q804	8-729-304-50	TRANSISTOR 2SD1941-06		R058	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
Q805	8-729-119-80	TRANSISTOR 2SC2688-LK		R059	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
<RESISTOR>				R060	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
JR1	1-216-296-00	METAL GLAZE 0 5% 1/8W		R061	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W		R062	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
JR4	1-216-295-00	METAL GLAZE 0 5% 1/10W		R063	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
JR7	1-216-296-00	METAL GLAZE 0 5% 1/8W		R064	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R001	1-216-041-00	METAL GLAZE 470 5% 1/10W		R065	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R002	1-216-041-00	METAL GLAZE 470 5% 1/10W		R066	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R003	1-216-198-00	METAL GLAZE 1K 5% 1/8W		R067	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R004	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R068	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R005	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R069	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R006	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R070	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
R007	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		R071	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
R008	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R072	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R009	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R073	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R010	1-216-041-00	METAL GLAZE 470 5% 1/10W		R075	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R012	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R076	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R013	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R077	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R014	1-216-085-00	METAL GLAZE 33K 5% 1/10W		R078	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
R015	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W		R079	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R016	1-216-085-00	METAL GLAZE 33K 5% 1/10W		R080	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R017	1-216-748-11	METAL GLAZE 39K 5% 1/10W		R081	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R018	1-216-095-00	METAL GLAZE 82K 5% 1/10W		R083	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R019	1-216-025-00	METAL GLAZE 100 5% 1/10W		R084	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R020	1-216-025-00	METAL GLAZE 100 5% 1/10W		R085	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R021	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		R086	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R022	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		R087	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R024	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R088	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R025	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R093	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R026	1-216-182-00	METAL GLAZE 220 5% 1/8W		R094	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R027	1-216-025-00	METAL GLAZE 100 5% 1/10W		R095	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R028	1-216-025-00	METAL GLAZE 100 5% 1/10W		R096	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R029	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R098	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R030	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R251	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R031	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R252	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R032	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R253	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R033	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R254	1-216-357-00	METAL OXIDE 4.7 5% 1W F	
R034	1-216-077-00	METAL GLAZE 15K 5% 1/10W		R255	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R035	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R256	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R036	1-216-083-00	METAL GLAZE 27K 5% 1/10W		R257	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R037	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W		R258	1-215-869-11	METAL OXIDE 1K 5% 1W F	
R038	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W		R259	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R039	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R261	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R040	1-216-077-00	METAL GLAZE 15K 5% 1/10W		R262	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R041	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R263	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R042	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R264	1-216-357-00	METAL OXIDE 4.7 5% 1W F	
R043	1-216-041-00	METAL GLAZE 470 5% 1/10W		R265	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R044	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R266	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R045	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W		R267	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R046	1-216-095-00	METAL GLAZE 82K 5% 1/10W		R268	1-215-869-11	METAL OXIDE 1K 5% 1W F	
R047	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R269	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R048	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R270	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R049	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R271	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R050	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W		R272	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R051	1-216-041-00	METAL GLAZE 470 5% 1/10W		R273	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R052	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R274	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R053	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R500	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R054	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R501	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R055	1-216-037-00	METAL GLAZE 330 5% 1/10W		R502	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R056	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R503	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R057	1-216-025-00	METAL GLAZE 100 5% 1/10W		R504	1-249-420-11	CARBON 1.8K 5% 1/4W	
				R505	1-216-077-00	METAL GLAZE 15K 5% 1/10W	

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R506	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R606	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R509	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R607	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R510	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W		1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R514	1-216-033-00	METAL GLAZE	220 5% 1/10W				(KV-X2551D ONLY)
R515	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				1/10W
							(KV-X2951D ONLY)
R517	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R608	1-216-488-11	METAL OXIDE	18K 5% 3W F
R518	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R609	1-216-007-00	METAL GLAZE	18 5% 1/10W
R519	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R610	1-244-941-00	CARBON	680K 5% 1/2W
R520	1-216-037-00	METAL GLAZE	330 5% 1/10W	R611	1-216-015-00	METAL GLAZE	39 5% 1/10W
R521	1-216-025-00	METAL GLAZE	100 5% 1/10W	R612	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R522	1-215-469-00	METAL	100K 1% 1/4W	R613	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R523	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R524	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R614	1-205-758-11	WIREWOUND	100 10% 10W F
R525	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R616	1-216-099-00	METAL GLAZE	120K 5% 1/10W
			(KV-X2551D ONLY)	R617	1-216-037-00	METAL GLAZE	330 5% 1/10W
R526	1-249-409-11	CARBON	220 5% 1/4W F	R618	1-216-431-11	METAL OXIDE	560 5% 1W F
R527	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R619	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R528	1-216-031-00	METAL GLAZE	180 5% 1/10W	R620	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R529	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R621	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R530	1-249-448-11	CARBON	1.2 5% 1/4W F	R622	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R531	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R623	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R532	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R624	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R533	1-216-295-00	METAL GLAZE	0 5% 1/10W	R625	1-215-865-11	METAL OXIDE	220 5% 1W F
R534	1-216-119-00	METAL GLAZE	820K 5% 1/10W	R626	1-216-037-00	METAL GLAZE	330 5% 1/10W
R535	1-249-749-00	CARBON	2.2M 5% 1/4W	R628	1-216-001-00	METAL GLAZE	10 5% 1/10W
R536	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R629	1-216-037-00	METAL GLAZE	330 5% 1/10W
R537	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R631	1-216-465-11	METAL OXIDE	27K 5% 2W
R538	1-216-101-00	METAL GLAZE	150K 5% 1/10W				(KV-X2551D ONLY)
R539	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R633	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R540	1-216-013-00	METAL GLAZE	33 5% 1/10W	R634	1-216-430-11	METAL OXIDE	390 5% 1W F
R541	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R635	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R542	1-216-308-00	METAL GLAZE	4.7 5% 1/10W	R636	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R543	1-249-451-11	CARBON	2.2 5% 1/4W	R643	1-217-189-21	WIREWOUND	0.12 5% 2W F
R544	1-247-745-11	CARBON	330 5% 1/2W	R651	1-216-025-00	METAL GLAZE	100 5% 1/10W
R545	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R653	1-205-758-11	WIREWOUND	100 10% 10W F
R546	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R802	1-249-443-11	CARBON	0.47 5% 1/4W F
R547	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R805	1-249-448-11	CARBON	1.2 5% 1/4W F
R548	1-216-349-00	METAL OXIDE	1 5% 1W F	R806	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R549	1-216-454-11	METAL OXIDE	390 5% 2W F	R807	1-215-869-11	METAL OXIDE	1K 5% 1W F
R550	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R809	1-202-821-11	SOLID	1.8K 10% 1/2W
R551	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R810	1-202-818-00	SOLID	1K 10% 1/2W
R553	1-215-869-11	METAL OXIDE	1K 5% 1W	R811	1-215-882-00	METAL OXIDE	22 5% 2W F
R554	1-216-037-00	METAL GLAZE	330 5% 1/10W	R812	1-249-494-11	CARBON	68K 5% 1/2W
R555	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W		1-247-281-00	CARBON	51K 5% 1/2W
R556	1-216-025-00	METAL GLAZE	100 5% 1/10W				(KV-X2551D ONLY)
R557	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R815	1-215-884-11	METAL OXIDE	47 5% 2W F
R558	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R816	1-215-868-00	METAL OXIDE	680 5% 1W F
R559	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R817	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R560	1-216-037-00	METAL GLAZE	330 5% 1/10W	R820	1-249-403-11	CARBON	68 5% 1/4W
R561	1-216-107-00	METAL GLAZE	270K 5% 1/10W	R821	1-247-725-11	CARBON	10K 5% 1/4W F
			(KV-X2951D ONLY)	R822	1-217-778-11	FUSIBLE	1K 5% 1W F
R570	1-216-045-00	METAL GLAZE	680 5% 1/10W	R825	1-216-345-11	METAL OXIDE	0.47 5% 1W F
R591	1-216-047-00	METAL GLAZE	820 5% 1/10W	R826	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R592	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R827	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R593	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R828	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R594	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R829	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R597	1-216-041-00	METAL GLAZE	470 5% 1/10W	R831	1-249-451-11	CARBON	2.2 5% 1/4W
R598	1-215-900-11	METAL OXIDE	22K 5% 2W F	R1601A	1-246-513-75	CARBON	47K 5% 1/4W
R600	1-249-381-11	CARBON	1 5% 1/4W	R1602A	1-244-945-91	CARBON	1K 5% 1/2W
R601	1-216-353-00	METAL OXIDE	2.2 5% 1W F	R1603A	1-217-328-11	WIREWOUND	2.7 10% 7W F
R603	1-216-469-11	METAL OXIDE	12 5% 3W F	R1604A	1-246-513-75	CARBON	47K 5% 1/4W
R604	1-216-025-00	METAL GLAZE	100 5% 1/10W	R1605A	1-218-265-91	METAL GLAZE	8.2M 5% 1W
R605	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R5501	1-216-073-00	METAL GLAZE	10K 5% 1/10W



The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R5503	1-216-308-00	METAL GLAZE	4.7 5% 1/10W (KV-X2551D ONLY)	R763	1-249-429-11	CARBON	10K 5% 1/4W
	1-216-001-00	METAL GLAZE	10 5% 1/10W (KV-X2951D ONLY)	R764	1-249-455-11	CARBON	4.7 5% 1/4W F
R5504	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R765	1-249-455-11	CARBON	4.7 5% 1/4W F
R5505	1-216-001-00	METAL GLAZE	10 5% 1/10W	R766	1-247-753-11	CARBON	1.2K 5% 1/2W
R5506	1-216-075-00	METAL GLAZE	12K 5% 1/10W (KV-X2951D ONLY)	R767	1-247-751-11	CARBON	820 5% 1/2W
<VARIABLE RESISTOR>				R768	1-215-887-00	METAL OXIDE	150 5% 2W F
RV501	1-238-013-11	RES, ADJ, CARBON 2.2K		R769	1-212-889-00	FUSIBLE	220 5% 1/4W F
RV502	1-238-016-11	RES, ADJ, CARBON 10K		<CONNECTOR>			
RV601	1-238-011-11	RES, ADJ, CARBON 470		VM73	*1-568-878-51	PIN, CONNECTOR 3P	
<SPARK GAP>				VM88	*1-568-878-51	PIN, CONNECTOR 3P	
SG801	1-519-422-11	GAP, SPARK		*****			
<THERMISTOR>				*A-1645-013-A V BOARD, COMPLETE			
THP601A	1-808-059-32	THERMISTOR, POSITIVE		*****			
*****				<CAPACITOR>			
*1-634-193-11	VM BOARD (KV-X2951D ONLY)			C1	1-126-101-11	ELECT	100MF 20% 16V
*****				C2	1-163-038-00	CERAMIC CHIP	0.1MF 25V
<CAPACITOR>				C3	1-124-120-11	ELECT	220MF 20% 16V
C751	1-101-361-00	CERAMIC	150PF 5% 50V	C4	1-163-077-00	CERAMIC CHIP	0.1MF 50V
C752	1-108-629-11	MYLAR	0.018MF 10% 100V	C5	1-124-120-11	ELECT	220MF 20% 16V
C753	1-137-047-11	FILM	0.01MF 10% 400V	C6	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C754	1-102-980-00	CERAMIC	270PF 5% 50V	C10	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C757	1-108-692-11	MYLAR	0.01MF 10% 200V	C11	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C759	1-124-907-11	ELECT	10MF 20% 50V	C12	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C760	1-124-917-11	ELECT	33MF 20% 50V	C13	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C761	1-101-006-00	CERAMIC	0.047MF 50V	C14	1-124-927-11	ELECT	4.7MF 20% 50V
C762	1-137-047-11	FILM	0.01MF 10% 400V	C15	1-124-927-11	ELECT	4.7MF 20% 50V
<COIL>				C16	1-163-141-00	CERAMIC CHIP	0.001MF 5% 50V
L751	1-408-413-00	INDUCTOR	22UH	C17	1-163-141-00	CERAMIC CHIP	0.001MF 5% 50V
L770	1-410-665-31	INDUCTOR	15UH	C18	1-163-141-00	CERAMIC CHIP	0.001MF 5% 50V
<TRANSISTOR>				C26	1-163-038-00	CERAMIC CHIP	0.1MF 25V
Q751	8-729-119-78	TRANSISTOR 2SC2785-HFE		C27	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE		C28	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
Q753	8-729-140-97	TRANSISTOR 2SB734-34		C29	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
Q754	8-729-140-96	TRANSISTOR 2SD774-34		C32	1-163-038-00	CERAMIC CHIP	0.1MF 25V
<RESISTOR>				C33	1-163-038-00	CERAMIC CHIP	0.1MF 25V
R751	1-249-418-11	CARBON	1.2K 5% 1/4W	<CONNECTOR>			
R752	1-249-426-11	CARBON	5.6K 5% 1/4W	CNV1	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
R753	1-249-414-11	CARBON	560 5% 1/4W	CNV2	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
R754	1-249-434-11	CARBON	27K 5% 1/4W	<DIODE>			
R755	1-249-405-11	CARBON	100 5% 1/4W	D1	8-719-105-91	DIODE RD5.6M-B2	
R756	1-249-419-11	CARBON	1.5K 5% 1/4W	D3	8-719-914-44	DIODE DAP202K	
R757	1-249-405-11	CARBON	100 5% 1/4W	D4	8-719-400-18	DIODE MA152WK	
R758	1-249-409-11	CARBON	220 5% 1/4W	D5	8-719-914-44	DIODE DAP202K	
R760	1-249-411-11	CARBON	330 5% 1/4W	D6	8-719-400-18	DIODE MA152WK	
R761	1-249-429-11	CARBON	10K 5% 1/4W	D7	8-719-105-52	DIODE RD3.6M-B2	
R762	1-247-895-00	CARBON	470K 5% 1/4W	D9	8-719-106-17	DIODE RD6.8M-B2	
<IC>				<IC>			
IC1	8-759-039-18	IC SDA20162-B002		IC1	8-759-039-18	IC SDA20162-B002	
IC2	8-759-045-54	IC SAA5246P/E/MAA		IC2	8-759-045-54	IC SAA5246P/E/MAA	
IC3	8-759-510-49	IC FCB61C65L-70P		IC3	8-759-510-49	IC FCB61C65L-70P	
<COIL>				<COIL>			

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
L1	1-408-403-00	INDUCTOR 3.3UH		R17	1-216-013-00	METAL GLAZE 33 5%	1/10W
L2	1-408-407-00	INDUCTOR 6.8UH		R18	1-216-025-00	METAL GLAZE 100 5%	1/10W
L3	1-408-407-00	INDUCTOR 6.8UH		R19	1-216-025-00	METAL GLAZE 100 5%	1/10W
L4	1-408-407-00	INDUCTOR 6.8UH		R20	1-216-041-00	METAL GLAZE 470 5%	1/10W
<IC LINK>				R21	1-216-041-00	METAL GLAZE 470 5%	1/10W
PS1	$\Delta$ 1-532-679-91	LINK, IC (ICP-N15) 0.6A		R22	1-216-168-00	METAL GLAZE 56 5%	1/8W
<TRANSISTOR>				R23	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
Q1	8-729-900-53	TRANSISTOR DTC114EK		R24	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
Q2	8-729-920-92	TRANSISTOR 2SD2096-EF		R25	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q3	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R26	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R27	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
Q5	8-729-807-87	TRANSISTOR 2SB1295-UL6		R28	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
Q6	8-729-807-87	TRANSISTOR 2SB1295-UL6		R34	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q7	8-729-807-87	TRANSISTOR 2SB1295-UL6		R35	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R40	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
<RESISTOR>				R41	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR01	1-216-295-00	METAL GLAZE 0 5%	1/10W	R42	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR02	1-216-295-00	METAL GLAZE 0 5%	1/10W	R44	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR03	1-216-295-00	METAL GLAZE 0 5%	1/10W	R46	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR08	1-216-295-00	METAL GLAZE 0 5%	1/10W	R47	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR09	1-216-295-00	METAL GLAZE 0 5%	1/10W	R49	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR11	1-216-295-00	METAL GLAZE 0 5%	1/10W	R50	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR14	1-216-296-00	METAL GLAZE 0 5%	1/8W	<VARIABLE RESISTOR>			
JR17	1-216-295-00	METAL GLAZE 0 5%	1/10W	RV1	1-238-012-11	RES, ADJ, CARBON 1K	
JR18	1-216-296-00	METAL GLAZE 0 5%	1/8W	<CRYSTAL>			
JR19	1-216-296-00	METAL GLAZE 0 5%	1/8W	X1	1-579-266-31	CRYSTAL VIBRATOR	
JR20	1-216-296-00	METAL GLAZE 0 5%	1/8W	X2	1-577-364-11	VIBRATOR, CERAMIC	
JR21	1-216-296-00	METAL GLAZE 0 5%	1/8W	*****			
JR22	1-216-296-00	METAL GLAZE 0 5%	1/8W	*1-638-744-12 H1 BOARD			
JR23	1-216-295-00	METAL GLAZE 0 5%	1/10W	*****			
JR24	1-216-296-00	METAL GLAZE 0 5%	1/8W	<CAPACITOR>			
JR25	1-216-296-00	METAL GLAZE 0 5%	1/8W	C1651	1-102-106-00	CERAMIC 100PF 10%	50V
JR26	1-216-296-00	METAL GLAZE 0 5%	1/8W	C1652	1-102-106-00	CERAMIC 100PF 10%	50V
JR201	1-216-295-00	METAL GLAZE 0 5%	1/10W	C1653	1-102-074-00	CERAMIC 0.001MF 10%	50V
JR204	1-216-295-00	METAL GLAZE 0 5%	1/10W	C1655	1-102-074-00	CERAMIC 0.001MF 10%	50V
JR207	1-216-295-00	METAL GLAZE 0 5%	1/10W	<CONNECTOR>			
JR208	1-216-295-00	METAL GLAZE 0 5%	1/10W	H1-1	*1-568-881-51	PIN, CONNECTOR 6P	
JR211	1-216-295-00	METAL GLAZE 0 5%	1/10W	H1-02	1-568-678-11	TERMINAL BLOCK, S 3P	
JR213	1-216-295-00	METAL GLAZE 0 5%	1/10W	H1-4	*1-568-879-51	PIN, CONNECTOR 4P	
JR219	1-216-296-00	METAL GLAZE 0 5%	1/8W	H1-05	1-562-837-11	JACK	
JR220	1-216-295-00	METAL GLAZE 0 5%	1/10W	H1-23	*1-568-879-51	PIN, CONNECTOR 4P	
JR223	1-216-295-00	METAL GLAZE 0 5%	1/10W	H1-43	*1-564-512-11	PLUG, CONNECTOR 9P	
R1	1-218-326-11	METAL GLAZE 470 5%	1/2W	<RESISTOR>			
R2	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W	R1651	1-249-413-11	CARBON 470 5%	1/4W
R3	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R1652	1-249-413-11	CARBON 470 5%	1/4W
R4	1-216-025-00	METAL GLAZE 100 5%	1/10W	<SWITCH>			
R5	1-216-047-00	METAL GLAZE 820 5%	1/10W	S1651	1-571-532-21	SWITCH, TACTIL	
R6	1-216-001-00	METAL GLAZE 10 5%	1/10W	S1652	1-571-532-21	SWITCH, TACTIL	
R7	1-216-083-00	METAL GLAZE 27K 5%	1/10W	S1653	1-571-532-21	SWITCH, TACTIL	
R8	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W	*****			
R9	1-216-308-00	METAL GLAZE 4.7 5%	1/10W				
R10	1-218-325-11	METAL GLAZE 120 5%	1/4W				
R11	1-218-325-11	METAL GLAZE 120 5%	1/4W				
R12	1-218-325-11	METAL GLAZE 120 5%	1/4W				
R13	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R14	1-216-001-00	METAL GLAZE 10 5%	1/10W				
R15	1-216-013-00	METAL GLAZE 33 5%	1/10W				
R16	1-216-013-00	METAL GLAZE 33 5%	1/10W				

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C1444	1-124-910-11	ELECT	47MF 20% 50V	IC201	8-759-013-17	IC TDA6200	
C1445	1-102-824-00	CERAMIC	470PF 5% 50V	IC1401	8-752-053-17	IC CXA1114P	
C1446	1-102-824-00	CERAMIC	470PF 5% 50V	IC1402	8-759-946-32	IC TEA2014A	
C1501	1-124-927-11	ELECT	4.7MF 20% 50V	IC1403	8-759-140-53	IC UPD4053BC	
C1502	1-124-903-11	ELECT	1MF 20% 50V	IC1501	8-759-942-16	IC TEA2031A	
C1503	1-108-680-11	MYLAR	0.001MF 10% 100V	<JACK>			
C1504	1-124-910-11	ELECT	47MF 20% 50V	J1402	1-561-534-41	SOCKET 21P	
C1505	1-137-094-11	FILM	0.047MF 10% 100V	J1403	1-561-534-41	SOCKET 21P	
C1507	1-108-686-11	MYLAR	0.0033MF 10% 100V	<TRANSISTOR>			
C1508	1-124-903-11	ELECT	1MF 20% 50V	Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C1509	1-124-903-11	ELECT	1MF 20% 50V	Q202	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C1511	1-124-927-11	ELECT	4.7MF 20% 50V	Q1401	8-729-216-22	TRANSISTOR 2SA1162-G	
C1512	1-137-045-11	FILM	0.0068MF 10% 400V	Q1402	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C1513	1-163-105-00	CERAMIC CHIP	33PF 5% 50V	Q1403	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C1514	1-137-102-11	FILM	0.022MF 10% 250V	Q1404	8-729-216-22	TRANSISTOR 2SA1162-G	
C1515	1-102-117-00	CERAMIC	820PF 10% 50V	<RESISTOR>			
<CONNECTOR>				R201	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
CN1401	1-565-838-11	JACK BLOCK, PIN 2P		R202	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
J1-41	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P		R203	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
J1-43	*1-564-524-11	PLUG, CONNECTOR 9P		R204	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
J1-44	*1-564-527-11	PLUG, CONNECTOR 12P		R205	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
J1-51	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P		R206	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
<DIODE>				R207	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
D201	8-719-110-14	DIODE RD9.1ES-B3		R208	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D202	8-719-110-14	DIODE RD9.1ES-B3		R209	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D205	8-719-110-03	DIODE RD7.5ES-B2		R210	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D206	8-719-110-03	DIODE RD7.5ES-B2		R211	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D1401	8-719-110-03	DIODE RD7.5ES-B2		R212	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D1403	8-719-110-03	DIODE RD7.5ES-B2		R213	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D1404	8-719-110-03	DIODE RD7.5ES-B2		R214	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1405	8-719-110-03	DIODE RD7.5ES-B2		R215	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D1406	8-719-110-03	DIODE RD7.5ES-B2		R216	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D1407	8-719-921-77	DIODE MTZN-10C		R217	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D1408	8-719-110-14	DIODE RD9.1ES-B3		R218	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1409	8-719-110-14	DIODE RD9.1ES-B3		R219	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
D1410	8-719-110-14	DIODE RD9.1ES-B3		R220	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
D1415	8-719-110-03	DIODE RD7.5ES-B2		R221	1-216-041-00	METAL GLAZE 470 5% 1/10W	
D1418	8-719-110-03	DIODE RD7.5ES-B2		R222	1-216-041-00	METAL GLAZE 470 5% 1/10W	
D1419	8-719-110-03	DIODE RD7.5ES-B2		R223	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1420	8-719-110-03	DIODE RD7.5ES-B2		R224	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1421	8-719-110-03	DIODE RD7.5ES-B2		R225	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1422	8-719-110-03	DIODE RD7.5ES-B2		R226	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1423	8-719-110-03	DIODE RD7.5ES-B2		R227	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1424	8-719-110-03	DIODE RD7.5ES-B2		R228	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1425	8-719-110-03	DIODE RD7.5ES-B2		R229	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
D1426	8-719-110-03	DIODE RD7.5ES-B2		R230	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
D1501	8-719-300-33	DIODE RU-3AM		R231	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
D1502	8-719-911-19	DIODE 1SS119		R232	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
D1503	8-719-911-19	DIODE 1SS119		R233	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
D1504	8-719-911-19	DIODE 1SS119		R234	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
D1505	8-719-911-19	DIODE 1SS119		R235	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D1506	8-719-982-33	DIODE MTZJ-36D		R236	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D1507	8-719-911-19	DIODE 1SS119		R240	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1510	8-719-911-19	DIODE 1SS119		R241	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
<IC>				R242	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
				R243	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
				R244	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
				R245	1-216-075-00	METAL GLAZE 12K 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R246	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1468	1-216-025-00	METAL GLAZE	100 5% 1/10W
R247	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1469	1-216-025-00	METAL GLAZE	100 5% 1/10W
R248	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1470	1-216-025-00	METAL GLAZE	100 5% 1/10W
R249	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1471	1-216-023-00	METAL GLAZE	82 5% 1/10W
R250	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1472	1-216-023-00	METAL GLAZE	82 5% 1/10W
R1400	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1473	1-216-023-00	METAL GLAZE	82 5% 1/10W
R1401	1-216-023-00	METAL GLAZE	82 5% 1/10W	R1474	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1402	1-216-170-00	METAL GLAZE	68 5% 1/8W	R1476	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1403	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1477	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1404	1-216-178-00	METAL GLAZE	150 5% 1/8W	R1478	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1405	1-249-434-11	CARBON	27K 5% 1/4W	R1480	1-216-190-00	METAL GLAZE	470 5% 1/8W
R1407	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1482	1-216-178-00	METAL GLAZE	150 5% 1/8W
R1408	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1483	1-216-178-00	METAL GLAZE	150 5% 1/8W
R1409	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1484	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1410	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1485	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1411	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1486	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1412	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1487	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1413	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1488	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1414	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1489	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1415	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1501	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1416	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1502	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R1417	1-216-023-00	METAL GLAZE	82 5% 1/10W	R1503	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1418	1-247-738-11	CARBON	82 5% 1/2W F	R1504	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R1419	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1505	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1420	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1506	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1421	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1509	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R1422	1-216-025-00	METAL GLAZE	100 5% 1/10W	R1510	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R1423	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1511	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R1424	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1512	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1425	1-216-045-00	METAL GLAZE	680 5% 1/10W	R1513	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R1426	1-216-025-00	METAL GLAZE	100 5% 1/10W	R1514	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R1427	1-216-001-00	METAL GLAZE	10 5% 1/10W	R1515	1-216-117-00	METAL GLAZE	680K 5% 1/10W (KV-X2551D ONLY)
R1428	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1516	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R1429	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1517	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1430	1-216-170-00	METAL GLAZE	68 5% 1/8W	R1519	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R1431	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1520	1-216-113-00	METAL GLAZE	470K 5% 1/10W (KV-X2551D ONLY)
R1432	1-216-041-00	METAL GLAZE	470 5% 1/10W		1-216-111-00	METAL GLAZE	390K 5% 1/10W (KV-X2951D ONLY)
R1433	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1521	1-216-214-00	METAL GLAZE	4.7K 5% 1/8W
R1434	1-249-393-11	CARBON	10 5% 1/4W F	R1550	1-216-349-00	METAL OXIDE	1 5% 1W F (KV-X2951D ONLY)
R1437	1-249-434-11	CARBON	27K 5% 1/4W	R1556	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R1440	1-216-045-00	METAL GLAZE	680 5% 1/10W	<VARIABLE RESISTOR>			
R1441	1-216-045-00	METAL GLAZE	680 5% 1/10W	RV1501	1-238-023-11	RES, ADJ, CARBON	470K
R1442	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RV1502	1-238-016-11	RES, ADJ, CARBON	10K
R1443	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RV1503	1-238-017-11	RES, ADJ, CARBON	22K
R1444	1-216-033-00	METAL GLAZE	220 5% 1/10W	RV1504	1-238-012-11	RES, ADJ, CARBON	1K
R1445	1-216-095-00	METAL GLAZE	82K 5% 1/10W	RV1505	1-238-023-11	RES, ADJ, CARBON	470K
R1446	1-216-033-00	METAL GLAZE	220 5% 1/10W	RV1506	1-238-017-11	RES, ADJ, CARBON	22K
R1447	1-216-033-00	METAL GLAZE	220 5% 1/10W	RV1507	1-238-009-11	RES, ADJ, CARBON	220
R1448	1-216-025-00	METAL GLAZE	100 5% 1/10W	RV1508	1-238-016-11	RES, ADJ, CARBON	10K
R1449	1-216-023-00	METAL GLAZE	82 5% 1/10W	RV1509	1-238-023-11	RES, ADJ, CARBON	470K
R1452	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*****			
R1453	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*A-1654-004-A IFG BOARD, COMPLETE			
R1454	1-216-180-00	METAL GLAZE	180 5% 1/8W	*****			
R1455	1-216-180-00	METAL GLAZE	180 5% 1/8W	<CAPACITOR>			
R1457	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R1459	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R1460	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W				
R1461	1-216-190-00	METAL GLAZE	470 5% 1/8W				
R1462	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R1463	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R1464	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				
R1465	1-216-023-00	METAL GLAZE	82 5% 1/10W				
R1466	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R1467	1-216-025-00	METAL GLAZE	100 5% 1/10W				

The components identified by shading and mark **▲** are critical for safety.  
Replace only with part number specified.

**IFG**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C1	1-163-031-11	CERAMIC CHIP 0.01MF	50V	L1	1-408-410-00	INDUCTOR 12UH	
C2	1-163-031-11	CERAMIC CHIP 0.01MF	50V	L2	1-408-410-00	INDUCTOR 12UH	
C3	1-163-031-11	CERAMIC CHIP 0.01MF	50V	L3	1-410-064-11	INDUCTOR 2.7MMH	
C4	1-163-031-11	CERAMIC CHIP 0.01MF	50V	L4	1-408-421-00	INDUCTOR 100UH	
C5	1-163-031-11	CERAMIC CHIP 0.01MF	50V	L5	1-408-421-00	INDUCTOR 100UH	
C6	1-163-031-11	CERAMIC CHIP 0.01MF	50V	<TRANSISTOR>			
C7	1-124-903-11	ELECT 1MF	20% 50V	Q2	8-729-901-00	TRANSISTOR DTC124EK	
C8	1-124-907-11	ELECT 10MF	20% 50V	Q3	8-729-216-22	TRANSISTOR 2SA1162-G	
C9	1-130-471-00	MYLAR 0.001MF	5% 50V	Q4	8-729-901-00	TRANSISTOR DTC124EK	
C10	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	<RESISTOR>			
C11	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	JR8	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C12	1-136-298-00	FILM 0.0033MF	2% 100V	JR10	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C13	1-124-477-11	ELECT 47MF	20% 16V	R1	1-216-045-00	METAL GLAZE 680 5% 1/10W	
C14	1-124-477-11	ELECT 47MF	20% 16V	R2	1-216-043-00	METAL GLAZE 560 5% 1/10W	
C15	1-124-477-11	ELECT 47MF	20% 16V	R3	1-216-043-00	METAL GLAZE 560 5% 1/10W	
C16	1-124-477-11	ELECT 47MF	20% 16V	R5	1-216-045-00	METAL GLAZE 680 5% 1/10W	
C17	1-124-907-11	ELECT 10MF	20% 50V	R6	1-216-043-00	METAL GLAZE 560 5% 1/10W	
C18	1-137-047-11	FILM 0.01MF	10% 400V	R7	1-216-043-00	METAL GLAZE 560 5% 1/10W	
C19	1-137-047-11	FILM 0.01MF	10% 400V	R9	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
C20	1-126-233-11	ELECT 22MF	20% 50V	R11	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
C21	1-126-233-11	ELECT 22MF	20% 50V	R12	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
C22	1-137-098-11	FILM 0.1MF	10% 100V	R13	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
C23	1-137-031-11	FILM 0.22MF	10% 100V	R15	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
C24	1-124-034-51	ELECT 33MF	20% 16V	R16	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
C25	1-137-102-11	FILM 0.022MF	10% 250V	R17	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
C26	1-137-094-11	FILM 0.047MF	10% 100V	R18	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
C27	1-124-903-11	ELECT 1MF	20% 50V	R19	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
C28	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	R20	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
C29	1-124-903-11	ELECT 1MF	20% 50V	R22	1-216-099-00	METAL GLAZE 120K 5% 1/10W	
C30	1-124-903-11	ELECT 1MF	20% 50V	R24	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
C31	1-137-047-11	FILM 0.01MF	10% 400V	R25	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
C32	1-130-479-00	MYLAR 0.0047MF	5% 50V	<VARIABLE RESISTOR>			
C33	1-163-081-00	CERAMIC CHIP 0.22MF	25V	RV1	1-238-016-11	RES, ADJ, CARBON 10K	
C34	1-137-031-11	FILM 0.22MF	10% 100V	RV2	1-238-019-11	RES, ADJ, CARBON 47K	
C35	1-124-907-11	ELECT 10MF	20% 50V	*****:~*****			
C36	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	MISCELLANEOUS			
C37	1-124-477-11	ELECT 47MF	20% 16V	*****			
C38	1-124-477-11	ELECT 47MF	20% 16V	▲ 1-460-091-11	COIL, DEGAUSS (KV-X255ID ONLY)		
C39	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	▲ 1-426-535-11	COIL, DEGAUSSING (KV-X295ID ONLY)		
<FILTER>				▲ 1-451-311-21	DEFLECTION YOKE (Y25FXA) (KV-X255D ONLY)		
CDA1	1-404-751-11	DISCRIMINATOR, CERAMIC		▲ 1-451-313-21	DEFLECTION YOKE (Y29FXA) (KV-X295D ONLY)		
CDA2	1-404-750-11	DISCRIMINATOR, CERAMIC		1-452-032-00	MAGNET, DISK; 10MM Ø		
SFT1	1-527-840-00	FILTER, CERAMIC		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø		
SFT2	1-527-839-00	FILTER, CERAMIC		▲ 1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308) (KV-X295D ONLY)		
<DIODE>				1-544-727-11	SPEAKER (7.5X13CM)		
D3	8-719-400-18	DIODE MA152WK		▲ 1-590-501-11	CORD, POWER (WITH NOISE FILTER)		
<IC>				V901 ▲ 8-733-231-05	PICTURE TUBE (A59JWC61X) (KV-X255D ONLY)		
IC1	8-759-003-90	IC TBA129		▲ 8-733-831-05	PICTURE TUBE (A68JYL61X) (KV-X295D ONLY)		
IC2	8-759-003-90	IC TBA129		*****:~*****			
IC3	8-759-030-48	IC TDA6600-2					
IC4	8-759-513-48	IC TDA2595/V9					
<CONNECTOR>							
IFG13 *1-565-488-11 CONNECTOR, BOARD TO BOARD 12P							
<COIL>							



ACCESSORIES AND PACKING MATERIALS  
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PART NO.	DESCRIPTION	REMARK
4-200-874-11	MANUAL, INSTRUCTION (GERMAN/ENGLISH/ FRENCH/DUTCH/ITALIAN/PORTUGUESE)	
*4-034-981-01	CUSHION (UPPER) (ASSY) (KV-X2551D ONLY)	
*4-200-876-01	CUSHION (UPPER) (ASSY) (KV-X2951D ONLY)	
*4-035-035-01	CUSHION (LOWER) (ASSY) (KV-X2551D ONLY)	
*4-200-879-01	CUSHION (LOWER) (ASSY) (KV-X2951D ONLY)	
*4-035-040-01	INDIVIDUAL CARTON (KV-X2551D ONLY)	
*4-200-884-01	INDIVIDUAL CARTON (KV-X2951D ONLY)	
*4-380-340-01	BAG, PROTECTION (KV-X2551D ONLY)	
*4-384-027-01	BAG, PROTECTION (KV-X2951D ONLY)	

REMOTE COMMANDER

1-465-796-11	CONTROL UNIT, REMOTE (RM-816)
4-031-670-01	COVER, POCKET (FOR RM-816)